

Statement of Basis

**Permit to Construct No. P-2019.0006
Project ID 62219**

**Fab Tec, Inc.
Moscow, Idaho**

Facility ID 057-00055

Final

**June 20, 2019
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Permit Writer**

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01. et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
FEC	Facility Emissions Cap
GACT	Generally Available Control Technology
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards

O&M	operation and maintenance
O ₂	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
RICE	reciprocating internal combustion engines
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SCL	significant contribution limits
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit
TAP	toxic air pollutants
TEQ	toxicity equivalent
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
yd ³	cubic yards
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

Fab Tec, Inc. (Fab Tec) operates a surface mining machine manufacturing facility located at 1605 Paradise Ridge Road, Moscow, ID in Latah County.

Manufacturing occurs within three shops on site, which are heated during winter months with 26 natural gas heaters. Steel and parts are received on the south side of the facility. Parts are mainly stored in Shop #1, but different storage areas are found in each of the three shops. Steel parts are distributed among the three shops and between each work area depending on the specific project. Steel is cut with saws, plasma cutters. Plasma cutting takes place over water on cutting tables. Holes in the steel are punched and drilled and excess material is shaved off with grinders as necessary. Steel parts are then welded together to create the final machinery. Some parts are treated with abrasive blasting that takes place outside in a three-walled concrete bunker on the north-east edge of the property. Finally, the paint is applied to the machines. The final products are shipped from the north end of the property.

Permitting History

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

April 12, 2019 P-2019.0006, Initial Permit to Construct (PTC) for an existing surface mining machine manufacturing facility, Permit status (A, but will become S upon issuance of this permit)

Application Scope

This PTC is for a minor modification at an existing minor facility.

The applicant has proposed to:

- Install and operate an overhead industrial maid filtration system in all three shops
- Increase the daily and annual coating usage

Application Chronology

April 15, 2019	DEQ received an application.
April 18, 2019	DEQ received an application fee.
April 23 – May 8, 2019	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
May 3, 2019	DEQ determined that the application was complete.
May 8, 2019	DEQ made available the draft permit and statement of basis for peer and regional office review.
May 16, 2019	DEQ made available the draft permit and statement of basis for applicant review.
June 17, 2019	DEQ received the permit processing fee.
June 20, 2019	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment	Emission Point ID No.
1	<u>Plasma Cutter Plasma 1:</u> Manufacturer: Hypertherm Model: Power Max 1250 G3 Handheld/Table: Table Manufacture Date: 2007	<u>Water Table:</u> Manufacturer: Hypertherm Model: Power Max 1250 G3 Type: Water Table Above water-semi-wet Control efficiency: 90.0% PM ₁₀ <u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-6000 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None
2	<u>Plasma Cutter Plasma 2:</u> Manufacturer: Hypertherm Model: Power Max 105 Handheld/Table: Table Manufacture Date: 2012	<u>Water Table:</u> Manufacturer: Hypertherm Model: Power Max 105 Type: Water Table Above water-semi-wet Control efficiency: 90.0% PM ₁₀ <u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-6000 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None
3	<u>Bench Grinder:</u> Manufacturer: Enco Model: 10-inch, 2.0 hp Location: Shop 1	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-4500 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None

Source ID No.	Sources	Control Equipment	Emission Point ID No.
4	<u>Bench Grinder:</u> Manufacturer: Jet Model: 6-inch, 0.5 hp Location: Shop 1	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-6000 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None
5	<u>Bench Grinder:</u> Manufacturer: Jet Model: 10-inch, 1.5 hp Location: Shop 2	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-6000 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None
6	<u>Bench Grinder:</u> Manufacturer: Jet Model: 8-inch, 1.0 hp Location: Shop 3	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-6000 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None
7-15	<u>Welders (9):</u> Manufacturer: Lincoln Model: Invertec, Idelarc Manufacture Dates: 1992-2018 Type: Gas metal arc welding (GMAW) Wire: Hobart Fabco Excel- Arc 71 Location: Shop 1	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-4500 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None

Source ID No.	Sources	Control Equipment	Emission Point ID No.
16-23	<u>Welders (8):</u> Manufacturer: Lincoln Model: Invertec, Idelarc Manufacture Dates: 1992-2018 Type: Gas metal arc welding (GMAW) Wire: Hobart Fabco Excel-Arc 71 Location: Shop 2	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-6000 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None
24-34	<u>Welders (11):</u> Manufacturer: Lincoln Model: Invertec, Idelarc Manufacture Dates: 1992-2018 Type: Gas metal arc welding (GMAW) Wire: Hobart Fabco Excel-Arc 71 Location: Shop 3	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-6000 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None
36	<u>Abrasive Blaster:</u> Manufacturer: Gardner Denver Model: 0.5 inch nozzle #8 Booth: three-sided structure Blasting media: Quartz sand Maximum capacity: 500 lb/hr	3-walled bunker	Fugitive
37	<u>Paint Guns: Paint 1</u> Manufacturer: Graco Model: G40 Type: Air Assisted 65% HVLP	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-6000 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None
38	<u>Paint Guns: Paint 2</u> Manufacturer: Graco Model: G40 Type: Air Assisted 65% HVLP	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-6000 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None

Source ID No.	Sources	Control Equipment	Emission Point ID No.
	<u>Paint Guns: Paint 3</u> Manufacturer: Graco Model: G40 Type: Air Assisted 65% HVLP	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-4500 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None
39-64	<u>Unit Name: Heaters #1-#26</u> Manufacturer: Dayton High-Intensity Model: 3E134 Manufacture Date: 1992-2018 Heat input rating: 0.090 MMBtu/hr each, 2.34 MMBtu/hr total Fuel: Natural gas	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-6000 and T4500 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} Or DEQ approved alternatives <i>Note: All heaters are located in shops 1, 2, or 3</i>	None
65	<u>Portable Plasma Cutter</u> Manufacturer: Hypertherm Plasma Model: Power Max 1000 G3 Manufacture Date: 2008	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-4500 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None
66	<u>Portable Plasma Cutter</u> Manufacturer: Hypertherm Plasma Model: Power Max 65 Manufacture Date: 2012	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-6000 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None

Source ID No.	Sources	Control Equipment	Emission Point ID No.
67	Portable Plasma Cutter Manufacturer: Hypertherm Plasma Model: Power Max 65 Manufacture Date: 2014	<u>Completely Enclosed Buildings with Filtration Control Devices:</u> Manufacturer: Industrial Maid Overhead Air Filtration System Model: T-6000 Filter: MERV 15 or equivalent Type: Air filtration and ventilation with pleated filters and bag filters Control efficiency: 90.94% or greater for PM ₁₀ and PM _{2.5} or DEQ approved alternatives	None

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of Potential to Emit an emission inventory was developed for the twenty-six natural gas-fired space heaters, five plasma cutting tables, three plasma hand-held torches, four bench grinders, welding, and coating operations at the facility (see Appendix A) associated with this proposed project. Emissions estimates of criteria pollutant, HAP PTE were based on emission factors from AP-42, Bromsen, B. et al, Swedish Institute of Production Engineering Research, Goteborg, Sweden, 1994. Bromsen, B. et al, Swedish Institute of Production Engineering Research, Goteborg, Sweden, 1994, operation of 3,120 hours per year, 312 hours per year for plasma torches, and process information specific to the facility for this proposed project.

Uncontrolled Potential to Emit

Using the definition of Potential to Emit, uncontrolled Potential to Emit is then defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall **not** be treated as part of its design **since** the limitation or the effect it would have on emissions **is not** state or federally enforceable.

The uncontrolled Potential to Emit is used to determine if a facility is a "Synthetic Minor" source of emissions. Synthetic Minor sources are facilities that have an uncontrolled Potential to Emit for regulated air pollutants or HAP above the applicable Major Source threshold without permit limits.

The following table presents the uncontrolled Potential to Emit for regulated air pollutants as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. For this existing trailer and skid manufacturing operation uncontrolled Potential to Emit is based upon a worst-case for operation of the facility of 3,120 hr/yr (10 hr/day x 312 day/yr).

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project.

The following table presents the pre-project potential to emit for all criteria pollutants from all emissions units at the facility as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation

of the calculations of these emissions for each emissions unit.

Table 2 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀ /PM _{2.5}		SO ₂		NO _x		CO		VOC	
	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)
Heaters	0.02	0.03	0.001	0.002	0.21	0.32	0.09	0.14	0.01	0.02
Plasma Cutting	0.02	0.08	--	--	0.84	2.76	--	--	--	--
Welding Operations	0.05	0.03	--	--	--	--	--	--	--	--
Grinding Operations	0.002	0.004	--	--	--	--	--	--	--	--
Coating Operations	7.75	0.71	--	--	--	--	--	--	1.58	1.46
Pre-Project Totals	7.84	0.85	0.001	0.002	1.05	3.08	0.09	0.14	1.59	1.48

- a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for criteria pollutants from all emissions units at the facility as determined by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 3 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀ /PM _{2.5}		SO ₂		NO _x		CO		VOC	
	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)
Heaters	1.52E-03	2.37E-03	1.32E-03	2.06E-03	2.07E-01	3.23E-01	8.82E-02	1.38E-01	1.21E-02	1.89E-02
Plasma Cutting	3.92E-04	1.22E-03	--	--	8.42E-01	2.89E+00	--	--	--	--
Welding Operations	5.08E-02	2.71E-02	--	--	--	--	--	--	--	--
Grinding Operations	2.43E-04	3.79E-04	--	--	--	--	--	--	--	--
Coating Operations	1.05E+00	6.84E-01	--	--	--	--	--	--	2.37E+01	1.54E+01
Post Project Totals	1.10	0.72	0.001	0.002	1.05	3.21	0.09	0.14	23.71	15.42

- a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

Table 4 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀ /PM _{2.5}		SO ₂		NO _x		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Pre-Project Potential to Emit	7.84	0.85	0.001	0.002	1.05	3.08	0.09	0.14	1.59	1.48
Post Project Potential to Emit	1.10	0.72	0.001	0.002	1.05	3.08	0.09	0.14	23.71	15.42
Changes in Potential to Emit	-6.74	-0.13	0.00	0.00	0.00	0.00	0.00	0.00	22.12	13.94

Non-Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of non-carcinogenic toxic air pollutants (TAP) is provided in the following table.

Pre- and post-project, as well as the change in, non-carcinogenic TAP emissions are presented in the following table:

Table 5 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non- Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
2-Butoxyethanol	9.94E-01	1.49E+00	0.49	8.00E+00	No
Tert Butyl Acetate	6.19E+00	9.33E+00	3.14	6.33E+01	No
Carbon Black	1.65E-01	7.85E-03	-0.15	2.30E-01	No
Cumene	1.59E-01	1.31E-01	-0.02	1.63E+01	No
Xylene	1.65E-01	1.31E-01	-0.03	2.90E+01	No
Toluene	1.59E-01	1.31E-01	-0.02	2.50E+01	No
Iron Oxide	4.93E-01	1.79E-01	-0.31	3.33E-01	No
Zinc Oxide	5.32E-01	7.23E-02	-0.45	6.67E-01	No
2-Methylnaphthalene	5.04E-09	5.04E-09	0.00	9.10E-05	No
Barium	9.23E-07	9.23E-07	0.00	3.30E-02	No
Cobalt	6.55E-07	9.12E-08	-5.63E-07	3.30E-03	No
Copper	1.83E-04	2.01E-05	-1.63E-04	1.30E-02	No
Manganese	8.95E-04	5.42E-05	-8.41E-04	6.70E-02	No
Molybdenum	1.83E-04	2.01E-05	-1.63E-04	3.33E-01	No
Selenium	6.38E-06	7.40E-07	-5.64E-06	1.30E-02	No
Vanadium	6.86E-06	1.22E-06	-5.64E-06	3.00E-03	No
Zinc	1.83E-04	2.53E-05	-1.58E-04	6.67E-01	No
Aluminum	3.53E-04	3.84E-05	-3.15E-04	1.33E-01	No
Antimony	6.37E-06	7.35E-07	-5.63E-06	6.67E-01	No
Quartz (silica, crystalline)	1.71E-03	2.70E-02	0.02	6.70E-03	No
Phosphorus	6.37E-06	7.35E-07	-5.63E-06	7.00E-03	No
Silicon	7.11E-04	7.74E-05	6.34E-04	6.67E-01	No
Tin	6.37E-06	7.35E-07	-5.63E-06	1.33E-01	No
Tungsten	6.37E-06	7.35E-07	-5.63E-06	3.33E-01	No
Iron	1.85E-02	2.02E-03	-0.01	6.70E-02	No

All changes in emissions rates for non-carcinogenic TAP were below EL (screening emissions level) as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average non-carcinogenic screening ELs identified in IDAPA 58.01.01.585 were exceeded.

Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of carcinogenic toxic air pollutants (TAP) is provided in the following table.

Table 6 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Pyrene ^a	3.93E-09	3.93E-09	0.00	9.10E-05	No
3-Methylcholanthrene ^(a)	1.41E-09	1.41E-09	0.00	9.10E-05	No

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
7,12-Dimethylbenz(a)anthracene ^(a)	1.26E-08	1.26E-08	0.00	9.10E-05	No
Acenaphthene ^(a)	1.41E-09	1.41E-09	0.00	9.10E-05	No
Acenaphthylene ^(a)	1.41E-09	1.41E-09	0.00	9.10E-05	No
Anthracene ^(a)	1.89E-09	1.89E-09	0.00	9.10E-05	No
Benzene	1.65E-06	1.65E-06	0.00	8.00E-04	No
Benzo(g,h,i)perylene ^(a)	9.43E-10	9.43E-10	0.00	9.10E-05	No
Dichlorobenzene ^(a)	9.43E-07	9.43E-07	0.00	9.10E-05	No
Fluoranthene ^(a)	2.36E-09	2.36E-09	0.00	9.10E-05	No
Fluorene ^(a)	2.20E-09	2.20E-09	0.00	9.10E-05	No
Formaldehyde	5.89E-05	5.89E-05	0.00	9.10E-05	No
Naphthalene	4.79E-07	4.79E-07	0.00	3.33E+00	No
Phenanthrene ^(a)	1.34E-08	1.34E-08	0.00	9.10E-05	No
Arsenic	5.06E-07	1.97E-07	-3.09E-07	1.50E-06	No
Beryllium	3.59E-07	4.97E-08	-3.09E-07	2.80E-05	No
Cadmium	9.03E-07	8.69E-07	-3.43E-08	3.70E-06	No
Chromium	9.60E-06	2.08E-06	-7.52E-06	3.30E-02	No
Nickel	5.53E-06	2.10E-06	-3.51E-06	2.70E-05	No
POM ^(a)	8.96E-09	8.96E-09	0.0000	9.10E-05	No

a) Polycyclic Organic Matter (POM) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

All changes in emissions rates for carcinogenic TAP were below EL (screening emissions level) as a result of this project. Therefore, modeling is not required for any carcinogenic TAP because none of the annual average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Post Project HAP Emissions

The following table presents the post project potential to emit for HAP pollutants from all emissions units at the facility being modified as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 7 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

Hazardous Air Pollutants	PTE (T/yr)
Cumene	2.51E+00
Xylene	2.51E+00
Toluene	2.51E+00
POM ^(a)	9.28E-08
Benzene	2.03E-05
Benzo(g,h,i)perylene ^(b)	1.16E-08
Dichlorobenzene ^(b)	9.43E-07
Formaldehyde	7.25E-04
Naphthalene	5.89E-06
Arsenic	1.94E-06
Beryllium	1.25E-07
Cadmium	1.06E-05
Chromium	1.38E-05
Cobalt	8.28E-07
Manganese	3.63E-04
Nickel	2.04E-05
Selenium	4.00E-07
Antimony	1.68E-07
Phosphorus	1.68E-07
Lead	1.31E-08
Totals	7.54E+00

Ambient Air Quality Impact Analyses

As presented in the Modeling Memo in Appendix B, the estimated emission rates of, PM_{2.5}, SO₂, NO_x, CO, VOC, HAP, and TAP from this project were below applicable screening emission levels (EL) and published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline¹. Refer to the Emissions Inventories section for additional information concerning the emission inventories.

The applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The applicant has also demonstrated pre-construction compliance to DEQ's satisfaction that the emissions increase due to this permitting action will not exceed any acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) for toxic air pollutants (TAP). A summary of the Ambient Air Impact Analysis for TAP is provided in Appendix A.

An ambient air quality impact analyses document has been crafted by DEQ based on a review of the modeling analysis submitted in the application. That document is part of the final permit package for this permitting action (see Appendix B).

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Latah County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

¹ Criteria pollutant thresholds in Table 2, State of Idaho Guideline for Performing Air Quality Impact Analyses, Doc ID AQ-011, September 2013.

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For HAPs (Hazardous Air Pollutants) Only:

- A = Use when any one HAP has permitted emissions > 10 T/yr or if the aggregate of all HAPS (Total HAPs) has permitted emissions > 25 T/yr.
- SM80 = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits > 8 T/yr of a single HAP or \geq 20 T/yr of Total HAPs.
- SM = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits < 8 T/yr of a single HAP and/or < 20 T/yr of Total HAPs.
- B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 10 and 25 T/yr HAP major source thresholds.
- UNK = Class is unknown.

For All Other Pollutants:

- A = Use when permitted emissions of a pollutant are > 100 T/yr.
- SM80 = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are \geq 80 T/yr.
- SM = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are < 80 T/yr.
- B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 100 T/yr major source threshold.
- UNK = Class is unknown.

Table 8 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	8.31	0.71	100	B
PM ₁₀	8.31	0.71	100	B
PM _{2.5}	7.73	0.71	100	B
SO ₂	0.01	0.002	100	B
NO _x	3.67	3.08	100	B
CO	0.39	0.14	100	B
VOC	15.48	15.42	100	B
HAP (single)	2.51	2.51	10	B
Total HAPs	7.54	7.54	25	B

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the modified emissions source. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625 Visible Emissions

The sources of PM emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Conditions 2.4 and 6.4.

Standards for New Sources (IDAPA 58.01.01.676)

IDAPA 58.01.01.676 Standards for New Sources

The fuel burning equipment located at this facility, with a maximum rated input of ten (10) million BTU per hour or more, are subject to a particulate matter limitation of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting gaseous fuels. Fuel-Burning Equipment is defined as any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. This requirement is assured by Permit Conditions 7.5 and 7.6.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301 Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for PM₁₀, SO₂, NO_x, CO, VOC, and HAP or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements 40 CFR Part 60.

NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements in 40 CFR 61.

GAFT Applicability (40 CFR 63)

The facility has proposed to operate as a minor source of hazardous air pollutant (HAP) emissions, and is subject to the requirements of 40 CFR 63, Subpart HHHHHH–National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources. DEQ is not delegated this Subpart. 40 CFR 63, Subpart JJJJJJ–National Emission Standards for Hazardous Air Pollutants for Industrial,

Commercial, and Institutional Boilers Area Sources. DEQ is not delegated this Subpart. 40 CFR 63, Subpart XXXXXX–Nine Metal Fabrication and Finishing at Area Sources. DEQ is not delegated this Subpart. Refer to the Title V Classification section for additional information.

**40 CFR 63, Subpart HHHHHH.....National Emission Standards for Hazardous Air Pollutants:
Paint Stripping and Miscellaneous Surface Coating
Operations at Area Sources**

Painting operations involving the following activities and materials are subject to Subpart HHHHHH:

- Paint stripping operations that use methylene chloride-containing paint stripping formulations;
- Spray application of coatings to motor vehicles and mobile equipment; and
- Spray application of coatings to a metal or plastic substrate that contain compounds of chromium, lead, manganese, nickel, or cadmium.

It was determined that Fab Tec's primary business activities are subject to Subpart HHHHHH since the portable aggregate equipment and trailers fabricated by Fab Tec meet the definition of "Mobile Equipment" as defined by 40 CFR 63.11180:

"Mobile equipment" means any device that may be drawn and/or driven on a roadway including, but not limited to, heavy-duty trucks, truck trailers, fleet delivery trucks, buses, mobile cranes, bulldozers, street cleaners, agriculture equipment, motor homes, and other recreational vehicles (including camping trailers and fifth wheels).

However, Fab Tec does not use paints containing any target HAP: chromium, lead, manganese, cadmium and nickel, therefore Fab Tec has petitioned the EPA Administrator for an exemption from the requirements of Subpart HHHHHH. On March 7, 2019 EPA Region 10 accepted FAB Tech's exemption petition and issued the facility a letter. The following is a breakdown of the subpart as it would apply to the facility in the event the facility changes the coating materials to include the five target metals, and does not meet the exemption criteria:

§63.11169 What is the purpose of this subpart?

Except as provided in paragraph (d) of this section, this subpart establishes national emission standards for hazardous air pollutants (HAP) for area sources involved in any of the activities in paragraphs (a) through (c) of this section. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission standards contained herein.

- (a) Paint stripping operations that involve the use of chemical strippers that contain methylene chloride (MeCl), Chemical Abstract Service number 75092, in paint removal processes;
 - (b) Autobody refinishing operations that encompass motor vehicle and mobile equipment spray-applied surface coating operations; and
 - (c) Spray application of coatings containing compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd), collectively referred to as the target HAP to any part or product made of metal or plastic, or combinations of metal and plastic that are not motor vehicles or mobile equipment.
- (d) This subpart does not apply to any of the activities described in paragraph (d)(1) through (6) of this section.

- (1) Surface coating or paint stripping performed on site at installations owned or operated by the Armed Forces of the United States (including the Coast Guard and the National Guard of any such State), the National Aeronautics and Space Administration, or the National Nuclear Security Administration.
- (2) Surface coating or paint stripping of military munitions, as defined in §63.11180, manufactured by or for the Armed Forces of the United States (including the Coast Guard and the National Guard of any such State) or equipment directly and exclusively used for the purposes of transporting military munitions.
- (3) Surface coating or paint stripping performed by individuals on their personal vehicles, possessions, or property, either as a hobby or for maintenance of their personal vehicles, possessions, or property. This subpart also does not apply when these operations are performed by individuals for others without compensation. An individual who spray applies surface coating to more than two motor

vehicles or pieces of mobile equipment per year is subject to the requirements in this subpart that pertain to motor vehicle and mobile equipment surface coating regardless of whether compensation is received.

- (4) Surface coating or paint stripping that meets the definition of “research and laboratory activities” in §63.11180.
- (5) Surface coating or paint stripping that meets the definition of “quality control activities” in §63.11180.
- (6) Surface coating or paint stripping activities that are covered under another area source NESHAP.

§63.11170 Am I subject to this subpart?

- (a) You are subject to this subpart if you operate an area source of HAP as defined in paragraph (b) of this section, including sources that are part of a tribal, local, State, or Federal facility and you perform one or more of the activities in paragraphs (a)(1) through (3) of this section:
 - (1) Perform paint stripping using MeCl for the removal of dried paint (including, but not limited to, paint, enamel, varnish, shellac, and lacquer) from wood, metal, plastic, and other substrates.
 - (2) Perform spray application of coatings, as defined in §63.11180, to motor vehicles and mobile equipment including operations that are located in stationary structures at fixed locations, and mobile repair and refinishing operations that travel to the customer's location, except spray coating applications that meet the definition of facility maintenance in §63.11180. However, if you are the owner or operator of a motor vehicle or mobile equipment surface coating operation, you may petition the Administrator for an exemption from this subpart if you can demonstrate, to the satisfaction of the Administrator, that you spray apply no coatings that contain the target HAP, as defined in §63.11180. Petitions must include a description of the coatings that you spray apply and your certification that you do not spray apply any coatings containing the target HAP. If circumstances change such that you intend to spray apply coatings containing the target HAP, you must submit the initial notification required by 63.11175 and comply with the requirements of this subpart.
 - (3) Perform spray application of coatings that contain the target HAP, as defined in §63.11180, to a plastic and/or metal substrate on a part or product, except spray coating applications that meet the definition of facility maintenance or space vehicle in §63.11180.
- (c) An area source of HAP is a source of HAP that is not a major source of HAP, is not located at a major source, and is not part of a major source of HAP emissions. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year, or emit any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year.

§63.11170(a) (2) allows Fab Tec to petition the Administrator for an exemption from this subpart if it can demonstrate, to the satisfaction of the Administrator, that the facility spray apply no coatings that contain the target HAP, as defined in §63.11180. Since Idaho is not delegated this subpart for minor sources, the Administrator is EPA. This exemption letter requirement prefaces each permit condition.

§63.11171 How do I know if my source is considered a new source or an existing source?

- (a) This subpart applies to each new and existing affected area source engaged in the activities listed in §63.11170, with the exception of those activities listed in §63.11169(d) of this subpart.
- (b) The affected source is the collection of all of the items listed in paragraphs (b)(1) through (6) of this section. Not all affected sources will have all of the items listed in paragraphs (b)(1) through (6) of this section.
 - (1) Mixing rooms and equipment;
 - (2) Spray booths, ventilated prep stations, curing ovens, and associated equipment;
 - (3) Spray guns and associated equipment;
 - (4) Spray gun cleaning equipment;
 - (5) Equipment used for storage, handling, recovery, or recycling of cleaning solvent or waste paint; and
 - (6) Equipment used for paint stripping at paint stripping facilities using paint strippers containing MeCl.
- (c) An affected source is a new source if it meets the criteria in paragraphs (c)(1) and (c)(2) of this section.

(1) You commenced the construction of the source after September 17, 2007, by installing new paint stripping or surface coating equipment. If you purchase and install spray booths, enclosed spray gun cleaners, paint stripping equipment to reduce MeCl emissions, or purchase new spray guns to comply with this subpart at an existing source, these actions would not make your existing source a new source.

(2) The new paint stripping or surface coating equipment is used at a source that was not actively engaged in paint stripping and/or miscellaneous surface coating prior to September 17, 2007.

(d) An affected source is reconstructed if it meets the definition of reconstruction in §63.2.

(e) An affected source is an existing source if it is not a new source or a reconstructed source.

Fab Tec was constructed prior to September 17, 2007, and it was not reconstructed subsequent to that date. Therefore, it is an existing affected source.

§63.11172 When do I have to comply with this subpart?

The date by which you must comply with this subpart is called the compliance date. The compliance date for each type of affected source is specified in paragraphs (a) and (b) of this section.

(a) For a new or reconstructed affected source, the compliance date is the applicable date in paragraph (a)(1) or (2) of this section:

(1) If the initial startup of your new or reconstructed affected source is after September 17, 2007, the compliance date is January 9, 2008.

(2) If the initial startup of your new or reconstructed affected source occurs after January 9, 2008, the compliance date is the date of initial startup of your affected source.

(b) For an existing affected source, the compliance date is January 10, 2011.

§63.11173 What are my general requirements for complying with this subpart?

(a) Each paint stripping operation that is an affected area source must implement management practices to minimize the evaporative emissions of MeCl. The management practices must address, at a minimum, the practices in paragraphs (a)(1) through (5) of this section, as applicable, for your operations.

(1) Evaluate each application to ensure there is a need for paint stripping (e.g., evaluate whether it is possible to re-coat the piece without removing the existing coating).

(2) Evaluate each application where a paint stripper containing MeCl is used to ensure that there is no alternative paint stripping technology that can be used.

(3) Reduce exposure of all paint strippers containing MeCl to the air.

(4) Optimize application conditions when using paint strippers containing MeCl to reduce MeCl evaporation (e.g., if the stripper must be heated, make sure that the temperature is kept as low as possible to reduce evaporation).

(5) Practice proper storage and disposal of paint strippers containing MeCl (e.g., store stripper in closed, air-tight containers).

(b) Each paint stripping operation that has annual usage of more than one ton of MeCl must develop and implement a written MeCl minimization plan to minimize the use and emissions of MeCl. The MeCl minimization plan must address, at a minimum, the management practices specified in paragraphs (a)(1) through (5) of this section, as applicable, for your operations. Each operation must post a placard or sign outlining the MeCl minimization plan in each area where paint stripping operations subject to this subpart occur. Paint stripping operations with annual usage of less than one ton of MeCl, must comply with the requirements in paragraphs (a)(1) through (5) of this section, as applicable, but are not required to develop and implement a written MeCl minimization plan.

(c) Each paint stripping operation must maintain copies of annual usage of paint strippers containing MeCl on site at all times.

(d) Each paint stripping operation with annual usage of more than one ton of MeCl must maintain a copy of their current MeCl minimization plan on site at all times.

Fab Tec does not perform paint stripping operations using MeCl. Therefore, §63.11173(a) through (d) is not applicable.

(e) Each motor vehicle and mobile equipment surface coating operation and each miscellaneous surface

coating operation must meet the requirements in paragraphs (e)(1) through (e)(5) of this section.

- (1) All painters must be certified that they have completed training in the proper spray application of surface coatings and the proper setup and maintenance of spray equipment. The minimum requirements for training and certification are described in paragraph (f) of this section. The spray application of surface coatings is prohibited by persons who are not certified as having completed the training described in paragraph (f) of this section. The requirements of this paragraph do not apply to the students of an accredited surface coating training program who are under the direct supervision of an instructor who meets the requirements of this paragraph.

Personnel who spray apply paints must be trained using a program that includes items listed in §63.11173(f). This is ensured by Permit Condition 6.15.

- (2) All spray-applied coatings must be applied in a spray booth, preparation station, or mobile enclosure that meets the requirements of paragraph (e)(2)(i) of this section and either paragraph (e)(2)(ii), (e)(2)(iii), or (e)(2)(iv) of this section.

(i) All spray booths, preparation stations, and mobile enclosures must be fitted with a type of filter technology that is demonstrated to achieve at least 98-percent capture of paint overspray. The procedure used to demonstrate filter efficiency must be consistent with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Method 52.1, "Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter, June 4, 1992" (incorporated by reference, see §63.14 of subpart A of this part). The test coating for measuring filter efficiency shall be a high solids bake enamel delivered at a rate of at least 135 grams per minute from a conventional (non- HVLP) air-atomized spray gun operating at 40 pounds per square inch (psi) air pressure; the air flow rate across the filter shall be 150 feet per minute. Owners and operators may use published filter efficiency data provided by filter vendors to demonstrate compliance with this requirement and are not required to perform this measurement. The requirements of this paragraph do not apply to waterwash spray booths that are operated and maintained according to the manufacturer's specifications.

98% filter removal efficiency requirement is in effect if no exemption letter is provided. This is ensured by Permit Condition 6.15.

(ii) Spray booths and preparation stations used to refinish complete motor vehicles or mobile equipment must be fully enclosed with a full roof, and four complete walls or complete side curtains, and must be ventilated at negative pressure so that air is drawn into any openings in the booth walls or preparation station curtains. However, if a spray booth is fully enclosed and has seals on all doors and other openings and has an automatic pressure balancing system, it may be operated at up to, but not more than, 0.05 inches water gauge positive pressure.

(iii) Spray booths and preparation stations that are used to coat miscellaneous parts and products or vehicle subassemblies must have a full roof, at least three complete walls or complete side curtains, and must be ventilated so that air is drawn into the booth. The walls and roof of a booth may have openings, if needed, to allow for conveyors and parts to pass through the booth during the coating process.

(iv) Mobile ventilated enclosures that are used to perform spot repairs must enclose and, if necessary, seal against the surface around the area being coated such that paint overspray is retained within the enclosure and directed to a filter to capture paint overspray.

- (3) All spray-applied coatings must be applied with a high volume, low pressure (HVLP) spray gun, electrostatic application, airless spray gun, air-assisted airless spray gun, or an equivalent technology that is demonstrated by the spray gun manufacturer to achieve transfer efficiency comparable to one of the spray gun technologies listed above for a comparable operation, and for which written approval has been obtained from the Administrator. The procedure used to demonstrate that spray gun transfer efficiency is equivalent to that of an HVLP spray gun must be equivalent to the California South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989" and "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns, September 26, 2002" (incorporated by reference, see §63.14

of subpart A of this part). The requirements of this paragraph do not apply to painting performed by students and instructors at paint training centers. The requirements of this paragraph do not apply to the surface coating of aerospace vehicles that involves the coating of components that normally require the use of an airbrush or an extension on the spray gun to properly reach limited access spaces; to the application of coatings on aerospace vehicles that contain fillers that adversely affect atomization with HVLP spray guns; or to the application of coatings on aerospace vehicles that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.).

Fab Tec uses HVLP spray guns. This is ensured by Permit Condition 6.15.

- (4) All paint spray gun cleaning must be done so that an atomized mist or spray of gun cleaning solvent and paint residue is not created outside of a container that collects used gun cleaning solvent. Spray gun cleaning may be done with, for example, hand cleaning of parts of the disassembled gun in a container of solvent, by flushing solvent through the gun without atomizing the solvent and paint residue, or by using a fully enclosed spray gun washer. A combination of non-atomizing methods may also be used.

Fab Tec cleans paint spray guns in a manner that collects solvent and paint residue in a container such that atomized mist of solvent and paint residues are not created outside of the container. This is ensured by Permit Condition 6.15.

- (5) As provided in §63.6(g), we, the U.S. Environmental Protection Agency, may choose to grant you permission to use an alternative to the emission standards in this section after you have requested approval to do so according to §63.6(g)(2).

(f) Each owner or operator of an affected miscellaneous surface coating source must ensure and certify that all new and existing personnel, including contract personnel, who spray apply surface coatings, as defined in §63.11180, are trained in the proper application of surface coatings as required by paragraph (e)(1) of this section. The training program must include, at a minimum, the items listed in paragraphs (f)(1) through (f)(3) of this section.

(1) A list of all current personnel by name and job description who are required to be trained; and

(2) Hands-on and classroom instruction that addresses, at a minimum, initial and refresher training in the topics listed in paragraphs (f)(2)(i) through (2)(iv) of this section.

(i) Spray gun equipment selection, set up, and operation, including measuring coating viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate.

(ii) Spray technique for different types of coatings to improve transfer efficiency and minimize coating usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap, and reducing lead and lag spraying at the beginning and end of each stroke.

(iii) Routine spray booth and filter maintenance, including filter selection and installation.

(iv) Environmental compliance with the requirements of this subpart.

Personnel who spray apply paints must be trained using a program that includes items listed in §63.11173 (f)(1) through (2). This is ensured by Permit Condition 6.15.

(3) A description of the methods to be used at the completion of initial or refresher training to demonstrate, document, and provide certification of successful completion of the required training. Owners and operators who can show by documentation or certification that a painter's work experience and/or training has resulted in training equivalent to the training required in paragraph (f)(2) of this section are not required to provide the initial training required by that paragraph to these painters.

(g) As required by paragraph (e)(1) of this section, all new and existing personnel at an affected motor vehicle and mobile equipment or miscellaneous surface coating source, including contract personnel, who spray apply surface coatings, as defined in §63.11180, must be trained by the dates specified in paragraphs (g)(1) and (2) of this section. Employees who transfer within a company to a position as a painter are subject to the same requirements as a new hire.

- (1) If your source is a new source, all personnel must be trained and certified no later than 180 days after hiring or no later than July 7, 2008, whichever is later. Painter training that was completed within five years prior to the date training is required, and that meets the requirements specified in paragraph (f)(2) of this section satisfies this requirement and is valid for a period not to exceed five years after the date the training is completed.
- (2) If your source is an existing source, all personnel must be trained and certified no later than 180 days after hiring or no later than January 10, 2011, whichever is later. Painter training that was completed within five years prior to the date training is required, and that meets the requirements specified in paragraph (f)(2) of this section satisfies this requirement and is valid for a period not to exceed five years after the date the training is completed.
- (3) Training and certification will be valid for a period not to exceed five years after the date the training is completed, and all personnel must receive refresher training that meets the requirements of this section and be re-certified every five years.

§63.11174 What parts of the General Provisions apply to me?

- (a) Table 1 of this subpart shows which parts of the General Provisions in subpart A apply to you.
- (b) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

Fab Tec is an area source subject to this subpart. Therefore it is exempt from an obligation to obtain a Title V operating permit.

§63.11175 What notifications must I submit?

(a) Initial Notification. If you are the owner or operator of a paint stripping operation using paint strippers containing MeCl and/or a surface coating operation subject to this subpart, you must submit the initial notification required by §63.9(b). For a new affected source, you must submit the Initial Notification no later than 180 days after initial startup or July 7, 2008, whichever is later. For an existing affected source, you must submit the initial notification no later than January 11, 2010. The initial notification must provide the information specified in paragraphs (a)(1) through (8) of this section.

- (1) The company name, if applicable.
- (2) The name, title, street address, telephone number, e-mail address (if available), and signature of the owner and operator, or other certifying company official;
- (3) The street address (physical location) of the affected source and the street address where compliance records are maintained, if different. If the source is a motor vehicle or mobile equipment surface coating operation that repairs vehicles at the customer's location, rather than at a fixed location, such as a collision repair shop, the notification should state this and indicate the physical location where records are kept to demonstrate compliance;
- (4) An identification of the relevant standard (i.e., this subpart, 40 CFR part 63, subpart HHHHHH); and
- (5) A brief description of the type of operation as specified in paragraph (a)(5)(i) or (ii) of this section.
 - (i) For all surface coating operations, indicate whether the source is a motor vehicle and mobile equipment surface coating operation or a miscellaneous surface coating operation, and include the number of spray booths and preparation stations, and the number of painters usually employed at the operation.
 - (ii) For paint stripping operations, identify the method(s) of paint stripping employed (e.g., chemical, mechanical) and the substrates stripped (e.g., wood, plastic, metal).
- (6) Each paint stripping operation must indicate whether they plan to annually use more than one ton of MeCl after the compliance date.

(7) A statement of whether the source is already in compliance with each of the relevant requirements of this subpart, or whether the source will be brought into compliance by the compliance date. For paint stripping operations, the relevant requirements that you must evaluate in making this determination are specified in §63.11173(a) through (d) of this subpart. For surface coating operations, the relevant requirements are specified in §63.11173(e) through (g) of this subpart.

(8) If your source is a new source, you must certify in the initial notification whether the source is in compliance with each of the requirements of this subpart. If your source is an existing source, you may certify in the initial notification that the source is already in compliance. If you are certifying in the initial notification that the source is in compliance with the relevant requirements of this subpart, then include also a statement by a responsible official with that official's name, title, phone number, e-mail address (if available) and signature, certifying the truth, accuracy, and completeness of the notification, a statement that the source has complied with all the relevant standards of this subpart, and that this initial notification also serves as the notification of compliance status.

(b) Notification of Compliance Status. If you are the owner or operator of a new source, you are not required to submit a separate notification of compliance status in addition to the initial notification specified in paragraph (a) of this subpart provided you were able to certify compliance on the date of the initial notification, as part of the initial notification, and your compliance status has not since changed. If you are the owner or operator of any existing source and did not certify in the initial notification that your source is already in compliance as specified in paragraph (a) of this section, then you must submit a notification of compliance status. You must submit a Notification of Compliance Status on or before March 11, 2011. You are required to submit the information specified in paragraphs (b)(1) through (4) of this section with your Notification of Compliance Status:

(1) Your company's name and the street address (physical location) of the affected source and the street address where compliance records are maintained, if different.

(2) The name, title, address, telephone, e-mail address (if available) and signature of the owner and operator, or other certifying company official, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance. For paint stripping operations, the relevant requirements that you must evaluate in making this determination are specified in §63.11173(a) through (d). For surface coating operations, the relevant requirements are specified in §63.11173(e) through (g).

(3) The date of the Notification of Compliance Status.

(4) If you are the owner or operator of an existing affected paint stripping source that annually uses more than one ton of MeCl, you must submit a statement certifying that you have developed and are implementing a written MeCl minimization plan in accordance with §63.11173(b).

The notification requirements of §63.11175(a) (1) through (5)(i), (a)(1)(7) through (8) and (b)(1) through (3) are in effect if no exemption letter is provided. This is ensured by Permit Condition 6.17.

§63.11176 What reports must I submit?

(a) Annual Notification of Changes Report. If you are the owner or operator of a paint stripping, motor vehicle or mobile equipment, or miscellaneous surface coating affected source, you are required to submit a report in each calendar year in which information previously submitted in either the initial notification required by §63.11175(a), Notification of Compliance, or a previous annual notification of changes report submitted under this paragraph, has changed. Deviations from the relevant requirements in §63.11173(a) through (d) or §63.11173(e) through (g) on the date of the report will be deemed to be a change. This includes notification when paint stripping affected sources that have not developed and implemented a written MeCl minimization plan in accordance with §63.11173(b) used more than one ton of MeCl in the previous calendar year. The annual notification of changes report must be submitted prior to March 1 of each calendar year when reportable changes have occurred and must include the information specified in paragraphs (a)(1) through (2) of this section.

(1) Your company's name and the street address (physical location) of the affected source and the street address where compliance records are maintained, if different.

(2) The name, title, address, telephone, e-mail address (if available) and signature of the owner and operator, or other certifying company official, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart or an explanation of any noncompliance and a description of corrective actions being taken to achieve compliance.

(b) If you are the owner or operator of a paint stripping affected source that has not developed and implemented a written MeCl minimization plan in accordance with §63.11173(b) of this subpart, you must submit a report for any calendar year in which you use more than one ton of MeCl. This report must be submitted no later than March 1 of the following calendar year. You must also develop and implement a written MeCl minimization plan in accordance with §63.11173(b) no later than December 31. You must then submit a Notification of Compliance Status report containing the information specified in §63.11175(b) by March 1 of the following year and comply with the requirements for paint stripping operations that annually use more than one ton of MeCl in §§63.11173(d) and 63.11177(f).

The reporting requirements of §63.11176(a)(1) through (2) are in effect if no exemption letter is provided. This is ensured by Permit Condition 6.18.

§63.11177 What records must I keep?

If you are the owner or operator of a surface coating operation, you must keep the records specified in paragraphs (a) through (d) and (g) of this section. If you are the owner or operator of a paint stripping operation, you must keep the records specified in paragraphs (e) through (g) of this section, as applicable.

(a) Certification that each painter has completed the training specified in §63.11173(f) with the date the initial training and the most recent refresher training was completed.

(b) Documentation of the filter efficiency of any spray booth exhaust filter material, according to the procedure in §63.11173(e)(3)(i).

(c) Documentation from the spray gun manufacturer that each spray gun with a cup capacity equal to or greater than 3.0 fluid ounces (89 cc) that does not meet the definition of an HVLP spray gun, electrostatic application, airless spray gun, or air assisted airless spray gun, has been determined by the Administrator to achieve a transfer efficiency equivalent to that of an HVLP spray gun, according to the procedure in §63.11173(e)(4).

(d) Copies of any notification submitted as required by §63.11175 and copies of any report submitted as required by §63.11176.

(e) Records of paint strippers containing MeCl used for paint stripping operations, including the MeCl content of the paint stripper used. Documentation needs to be sufficient to verify annual usage of paint strippers containing MeCl (e.g., material safety data sheets or other documentation provided by the manufacturer or supplier of the paint stripper, purchase receipts, records of paint stripper usage, engineering calculations).

(f) If you are a paint stripping source that annually uses more than one ton of MeCl you are required to maintain a record of your current MeCl minimization plan on site for the duration of your paint stripping operations. You must also keep records of your annual review of, and updates to, your MeCl minimization plan.

(g) Records of any deviation from the requirements in §63.11173, §63.11174, §63.11175, or §63.11176. These records must include the date and time period of the deviation, and a description of the nature of the deviation and the actions taken to correct the deviation.

(h) Records of any assessments of source compliance performed in support of the initial notification, notification of compliance status, or annual notification of changes report.

The recordkeeping requirements of §63.11177(a) through (b), (d) and (g) are in effect if no exemption letter is provided. This is ensured by Permit Condition 6.18.

§63.11178 In what form and for how long must I keep my records?

(a) If you are the owner or operator of an affected source, you must maintain copies of the records specified in §63.11177 for a period of at least five years after the date of each record. Copies of records must be kept on site and in a printed or electronic form that is readily accessible for inspection for at least the first two years after their date, and may be kept off-site after that two year period.

Records retention requirements specified in §63.11177 are in effect if no exemption letter is available. This is ensured by Permit Condition 6.18.

§63.11179 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (EPA), or a delegated authority such as your State, local, or tribal agency. If the Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator and are not transferred to the State, local, or tribal agency.

(c) The authority in §63.11173(e)(5) will not be delegated to State, local, or tribal agencies.

The provisions in §63.11179(a) through (b) for implementation and enforcement of this subpart are in effect if no exemption letter is provided. Permit condition 6.19 ensures that should there be any conflict between the requirements of the permit condition and the requirements of the document, the requirements of the document shall govern, including any amendments to that regulation

40 CFR 63, Subpart JJJJJJ.....National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

40 CFR Part 63 Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources, was evaluated for the natural gas heaters. Fab Tec is an area source that operates industrial boilers (the heating units meet the definition of a boiler identified within the subpart) and is considered an affected source in section 63.11194. However, section 63.11195(e) exempts natural gas-fired boilers. Therefore, JJJJJJ requirements do not apply to activities at Fab Tec. Because the heaters are exempt from the subpart, IDAPA 58.01.01.210.20 and IDEQ NESHAP policy indicates that all required TAPs demonstration(s) have been established since the exemption status assumes that the associated emissions are considered negligible during the EPA evaluation.

40 CFR 63, Subpart XXXXXX.....Nine Metal Fabrication and Finishing at Area Sources

Fab Tec's business activities are potentially subject to 40 CFR Part 63 Subpart XXXXXX: Nine Metal Fabrication and Finishing at Area Sources. Subpart XXXXXX defines a specific list of SIC and NAICS codes under which a facility must fall to be potentially applicable. For a facility's activities to be subject to Subpart XXXXXX, the facility must operate under both an NAICS and SIC code listed under the Nine Metal Fabrication and Finishing source categories in addition to being "primarily engaged" in the activity(ies) subject to Subpart XXXXXX. Fab Tec's operations are assigned two NAICS codes, 333922 and 333131, neither of which match any of the 15 NAICS codes that are subject to Subpart XXXXXX. For this reason Fab Tec is not subject to 40 CFR Part 63 Subpart XXXXXX.

Permit Conditions Review

This section describes the permit conditions for this initial permit or only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

Permit Scope; Permit Section 1

This section indicates that this is a modified permit to construct to change the material usage rates for coating and update emission control efficiencies for the three shops located on the property. This section also includes a list of regulated sources.

Plasma Cutting; Permit Section 2

Permit Conditions 2.1 and 2.2 describe the process and emissions controls of the plasma cutting operations.

Table 2.1 summarizes the features of both plasma cutting tables and three plasma cutting torches and the controls.

The three plasma torches and the annual hourly use of the torches were added to this permit in this permitting action, as submitted by the applicant.

Permit Condition 2.3 establishes the emission limits for the plasma cutting operations.

Permit Condition 2.4 establishes the opacity requirements in accordance with IDAPA 58.01.01.625.

Permit Condition 2.5 specifies the annual hours the two plasma cutting tables and the three plasma hand-held torches shall be used.

Permit Condition 2.6 establishes the operations and maintenance manual required to ensure the two semi-wet plasma cutting tables are operating according to the 90.0% control efficiency for PM₁₀ as demonstrated in the emissions inventory submitted with this application and used to establish the Emission Limits Permit Condition.

Permit Condition 2.7 is a monitoring requirement to demonstrate compliance with the Annual Hour Plasma Cutting Limit Permit Condition.

Permit Condition 2.8 is a filter system procedure established to ensure, the industrial overhead air filtration system operates at 90.94% efficiency to control PM₁₀ emissions.

Permit Condition 2.9 is a filter system documentation procedure to establish to documentation requirements to demonstrate compliance with the Filter System Procedure Permit Condition.

Permit Condition 2.10 is a standard DEQ recordkeeping requirements to demonstrate compliance with the Emission Limits Permit Condition.

Grinding Operations; Permit Section 3

Permit Conditions 3.1 and 3.2 describe the process and emissions controls of the grinding operations.

Table 3.1 summarizes the features of all four grinding benches and controls.

Permit Condition 3.3 establishes the emission limits for the grinding operations.

Permit Condition 3.4 establishes the opacity requirements in accordance with IDAPA 58.01.01.625.

Permit Condition 3.5 specifies the annual grinding wheel usage limit in pounds per year of material used.

Permit Condition 3.6 is a monitoring requirement to demonstrate compliance with the Annual Grinding Wheel Usage Limit Permit Condition.

Permit Condition 3.7 is a filter system procedure established to ensure, the industrial overhead air filtration system operates at 90.94% efficiency to control PM₁₀ emissions.

Permit Condition 3.8 is a filter system documentation procedure to establish to documentation requirements to demonstrate compliance with the Filter System Procedure Permit Condition.

Permit Condition 3.9 is a standard DEQ recordkeeping requirements to demonstrate compliance with the Emission Limits Permit Condition.

Welding Operations; Permit Section 4

Permit Conditions 4.1 and 4.2 describe the process and emissions controls of the welding operations.

Table 4.1 summarizes the features of the welding and controls.

Permit Condition 4.3 establishes the emission limits for the welding operations.

Permit Condition 4.4 establishes the opacity requirements in accordance with IDAPA 58.01.01.625.

Permit Condition 4.5 specifies the annual welding wire usage limit in pounds per year of material used.

Permit Condition 4.6 specifies the welding wire type that the emissions for the welding process emit and were analyzed to determine the facilities potential to emit for this process.

Permit Condition 4.7 is a monitoring requirement to demonstrate compliance with the Annual Welding Wire Usage Limit Permit Condition.

Permit Condition 4.8 is a filter system procedure established to ensure, the industrial overhead air filtration system operates at 90.94% efficiency to control PM₁₀ emissions.

Permit Condition 4.9 is a filter system documentation procedure to establish to documentation requirements to demonstrate compliance with the Filter System Procedure Permit Condition.

Permit Condition 4.10 is a standard DEQ recordkeeping requirements to demonstrate compliance with the Emission Limits Permit Condition as well as the Welding Wire Type Permit Condition.

Abrasive Blasting Operations; Permit Section 5

Permit Conditions 5.1 and 5.2 describe the process and emissions controls of the abrasive blasting operation.

Table 5.1 summarizes the features of the abrasive blasting operation.

Permit Condition 5.3 establishes the emission limits for the abrasive blasting operation.

Permit Condition 5.4 specifies the abrasive blasting media type that was used to calculate the facilities potential to emit for this process.

Permit Condition 5.5 explains the reasonable precautions the permittee shall take to reasonably control fugitive emissions from the abrasive blasting process.

The abrasive blasting process takes place out doors in a three-sided building with no roof. The emissions generated from this process cannot be easily captured due to the location of the process and the size of the equipment under going this process. Therefore all emissions from this process are considered fugitive and 58.01.01.650-651 shall apply to this process.

Permit Condition 5.6 is a monitoring requirement to demonstrate compliance with the Annual Abrasive Blasting Media Usage Limit Permit Condition.

Permit Condition 5.7 is a standard DEQ recordkeeping requirements to demonstrate compliance with the Emission Limits Permit Condition.

Coating Operations; Permit Section 6

Permit Conditions 6.1 and 6.2 describe the process and emissions controls of the coating operations.

Table 6.1 summarizes the features of the coating process, spray guns, and controls.

Permit Condition 6.3 establishes the emission limits for the coating operations.

Permit Condition 6.4 establishes the opacity requirements in accordance with IDAPA 58.01.01.625.

Permit Condition 6.5 specifies the approved daily coating usage scenario. Fifteen coatings are listed. Of these fifteen coatings any of them can be combined to a usage of no more than 60 gallons per day in any combination. A thinner is listed at a maximum of 6 gallons per day by itself. This daily usage was analyzed and it was determined that it demonstrated compliance with the 24 hour standards for all TAPs, HAPs, and criteria pollutants.

Permit Condition 6.6 specifies the approved annual coating usage scenario. Fifteen coatings are listed. Of these fifteen coatings any of them can be combined to a usage of no more than 7,800 gallons per year in any combination. A thinner is listed at a maximum of 780 gallons per year by itself. This annual usage was analyzed and it was determined that it demonstrated compliance with the annual average standards for all TAPs, HAPs.

Permit Conditions 6.7 through 6.10 allow the permittee to use alternate coatings that are not listed in the permit. This enables the facility to introduce alternate coating materials into the facility. Permit Conditions 6.7 through 6.10 explain how the permittee can demonstrate compliance the TAPs in the event the permittee decides to introduce alternate coatings into the coatings operation.

Permit Condition 6.11 is a monitoring requirement to demonstrate compliance with the Coating Usage Scenario Permit Condition.

Permit Condition 6.12 is a recordkeeping requirement to demonstrate compliance with the Coating Material Usage Permit Condition.

Permit Condition 6.13 is a recordkeeping requirements of all coating materials purchased and their accompanying SDS's to ensure compliance the TAPs, and HAPs standards, as well as the Alternate Coating Usage Scenario Permit Condition.

Permit Condition 6.14 is a reporting requirement to demonstrate compliance with the Coating Usage Scenario

Permit Condition 6.15 is a filter system procedure established to ensure, the industrial overhead air filtration system operates at 90.94% efficiency to control PM₁₀ emissions.

Permit Condition 6.16 is a filter system documentation procedure to establish to documentation requirements to demonstrate compliance with the Filter System Procedure Permit Condition.

Permit Condition 6.17 is the 40 CFR 63, Subpart HHHHHH National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources Reporting Requirement Federal Regulation Applicability and Requirements.

The facility received an exemption concurrence from EPA Region 10 May 7, 2019, for this subpart. However, in the event the facility introduces any coating materials containing the five target metals under the Alternate Coating Material Usage Permit Condition, the facility may become subject to this subpart and not meet the exemption criteria. If that happens, the facility is applicable to this subpart and shall comply with this subpart.

Shop Heaters; Permit Section 7

Permit Conditions 7.1 and 7.2 describe the process and emissions controls of the space heaters at the facility located in the three different buildings.

Table 7.1 summarizes the features of the space heaters and their emission controls.

Permit Condition 7.3 establishes the emission limits for the 26 space heaters.

Permit Condition 7.4 establishes the opacity requirements in accordance with IDAPA 58.01.01.625.

Permit Condition 7.5 specifies the grain loading for the specific fuel burning equipment listed in section 7 of the permit.

Permit Condition 7.6 specifies the fuel type to be combusted in the 26 space heaters.

Permit Condition 7.7 specifies the annual natural gas usage limit. The facility operates 3,120 days per year and has 26 natural gas fired heaters all with a heat input capacity of 90,000 btu/hr. Using the conversion of 1020 btu/scf this equates to 7.15 MMscf/year for all 26 natural gas heaters. Permit No. P-2019.0006 issued April 12, 2019, gave an annual natural gas limit of 825,885 scf/year. This was calculated for only three space heaters. The annual natural gas usage has been corrected and revised in this permitting action to reflect 26 natural gas space heaters operating at 3,120 hours per year. This was a DEQ error, as the application and emissions inventory submitted for the April 12, 2019, project and this permitting project accounted for all 26 natural gas space heaters at 3,120 hours per year.

Permit Condition 7.8 is a monitoring requirement to demonstrate compliance with the Annual Natural Gas Usage Limit Permit Condition.

Permit Condition 7.9 is a filter system procedure established to ensure, the industrial overhead air filtration system operates at 90.94% efficiency to control PM₁₀ emissions.

Permit Condition 7.10 is a filter system documentation procedure to establish to documentation requirements to

demonstrate compliance with the Filter System Procedure Permit Condition.

The General Provisions from the current template were used in this permitting action, no changes were made.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c or IDAPA 58.01.01.404.01.c. During this time, there was not a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

APPENDIX A – EMISSIONS INVENTORIES

TAP	CAS #	SW/DB	Abiotic Reaction ¹	NOx Reactors	Non Combustion	Welding	Plasma Cutting	Grinding	Facility-Wide Emissions Total	Emissions Total Subject to Modeling	EL	Modeling?
2-Methylphenol	111-76-2	585			1.43				1.43E+00	1.43E+00	8.00E+00	No
tert Butyl Acetate	540-88-5	585			0.33				0.33E+00	0.33E+00	8.33E+01	No
Carbon Black	1333-86-4	585			0.01				7.81E-03	7.81E-03	2.32E+01	No
Camene	186-82-6	585			0.13				1.31E-01	1.31E-01	1.33E+01	No
Toluene	1330-20-7	585			0.13				1.31E-01	1.31E-01	7.90E+01	No
Toluene	108-88-3	585		7.33E-07	0.13				1.31E-01	1.31E-01	2.52E+01	No
Iron Oxide ²	1309-37-5	585			0.18				1.78E-01	1.78E-01	3.33E+01	No
Iron Oxide ²	1319-13-2	585			0.07				7.23E-02	7.23E-02	6.67E+01	No
Pyrene ³	129-00-0	585		3.93E-09					3.93E-09	3.93E-09	9.20E+05	No
2-Methylphenol ³	95-57-6	585		5.04E-09					5.04E-09	5.04E-09	9.23E+05	No
2-Methylphenol ³	95-57-6	585		1.41E-09					1.41E-09	1.41E-09	9.10E+05	No
1,12-Dimethylbenz[a]anthracene ³		585		1.26E-08					1.26E-08	1.26E-08	9.10E+05	No
Acenaphthene ³	83-32-9	585		1.41E-09					1.41E-09	1.41E-09	8.13E+05	No
Acenaphthylene ³	101-06-0	585		1.41E-09					1.41E-09	1.41E-09	0.10E+05	No
Anthracene ³	119-12-7	585		1.89E-09					1.89E-09	1.89E-09	9.10E+05	No
PAH ³				0.90E-09					0.90E-09	0.90E-09	9.10E+05	No
Benzo[a]pyrene ³	71-43-1	585		1.05E-06					1.05E-06	1.05E-06	0.90E+04	No
Benzo[a]fluoranthene ³	193-24-2	585		9.43E-10					9.43E-10	9.43E-10	9.10E+05	No
Dibenzodioxene ³	25121-23-6	585		8.43E-07					8.43E-07	8.43E-07	9.13E+05	No
Dibenzodioxene ³	206-04-0	585		2.35E-09					2.35E-09	2.35E-09	0.92E+05	No
Fluorene ³	86-73-7	585		2.20E-09					2.20E-09	2.20E-09	9.10E+05	No
Formaldehyde	50-99-0	585		5.89E-05					5.89E-05	5.89E-05	9.11E+05	No
Hydrochloric Acid	7732-18-5	585		4.78E-07					4.78E-07	4.78E-07	2.33E+09	No
Phenanthrene ³	85-01-8	585		1.39E-08					1.39E-08	1.39E-08	9.10E+05	No
Aniline	7660-35-3	585		1.37E-07		4.83E-04			1.37E-07	1.37E-07	1.50E+04	No
Barium	7440-39-3	585		9.23E-07					9.23E-07	9.23E-07	3.30E+03	No
Beryllium	7440-41-7	585		9.43E-09					9.43E-09	9.43E-09	2.89E+03	No
Cadmium	7440-43-9	585		8.66E-07					8.66E-07	8.66E-07	3.29E+04	No
Chromium	7440-47-3	585		1.10E-06					9.80E-07	2.08E-06	3.30E+03	No
Cobalt	7440-48-4	585		1.74E-08					7.33E-08	9.13E-08	3.30E+03	No
Copper	7440-50-8	585		1.78E-07		3.32E-05			2.03E-05	2.03E-05	1.83E+02	No
Manganese	7439-96-5	585		7.33E-08		1.44E-08			5.47E-05	5.47E-05	6.29E+03	No
Molybdenum	7439-98-7	585		7.33E-07		7.33E-07			2.03E-05	2.03E-05	3.33E+03	No
Nickel	7440-02-0	585		1.85E-06		6.88E-07			2.18E-06	2.18E-06	2.29E+05	No
Selenium	7782-49-2	585		5.64E-09		7.33E-07			7.66E-07	7.66E-07	1.30E+02	No
Sulfurium	7440-43-2	585		4.83E-07		2.35E-07			1.72E-05	1.72E-05	1.00E+03	No
Zinc	7440-66-6	585		6.09E-06		1.92E-05			3.33E-05	2.53E-05	5.47E+01	No
Aluminum	7429-90-5	585				3.83E-05			3.83E-05	3.83E-05	1.33E+01	No
Antimony	7440-36-0	585				7.33E-07			7.33E-07	7.33E-07	4.47E+01	No
Quartz (Silica, crystalline)	14808-60-7	585	2.89E-02			3.83E-05			7.25E-02	3.83E-05	6.78E+01	No
Phosphorus	7723-14-0	585				7.33E-07			2.53E-07	2.53E-07	7.00E+03	No
Silicon	7440-21-3	585				7.66E-05			7.74E-05	7.74E-05	6.67E+01	No
Tin	7440-31-5	585				2.33E-07			7.33E-07	7.33E-07	1.33E+01	No
Tungsten	7440-33-7	585				7.33E-07			7.33E-07	7.33E-07	1.33E+01	No
Iron	7439-89-6	585				1.88E-07			2.03E-07	2.03E-07	6.26E+02	No

1. PCBs are the combination of 1,2,3,4,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125,126,127,128,129,130,131,132,133,134,135,136,137,138,139,140,141,142,143,144,145,146,147,148,149,150,151,152,153,154,155,156,157,158,159,160,161,162,163,164,165,166,167,168,169,170,171,172,173,174,175,176,177,178,179,180,181,182,183,184,185,186,187,188,189,190,191,192,193,194,195,196,197,198,199,200,201,202,203,204,205,206,207,208,209,210,211,212,213,214,215,216,217,218,219,220,221,222,223,224,225,226,227,228,229,230,231,232,233,234,235,236,237,238,239,240,241,242,243,244,245,246,247,248,249,250,251,252,253,254,255,256,257,258,259,260,261,262,263,264,265,266,267,268,269,270,271,272,273,274,275,276,277,278,279,280,281,282,283,284,285,286,287,288,289,290,291,292,293,294,295,296,297,298,299,300,301,302,303,304,305,306,307,308,309,310,311,312,313,314,315,316,317,318,319,320,321,322,323,324,325,326,327,328,329,330,331,332,333,334,335,336,337,338,339,340,341,342,343,344,345,346,347,348,349,350,351,352,353,354,355,356,357,358,359,360,361,362,363,364,365,366,367,368,369,370,371,372,373,374,375,376,377,378,379,380,381,382,383,384,385,386,387,388,389,390,391,392,393,394,395,396,397,398,399,400,401,402,403,404,405,406,407,408,409,410,411,412,413,414,415,416,417,418,419,420,421,422,423,424,425,426,427,428,429,430,431,432,433,434,435,436,437,438,439,440,441,442,443,444,445,446,447,448,449,450,451,452,453,454,455,456,457,458,459,460,461,462,463,464,465,466,467,468,469,470,471,472,473,474,475,476,477,478,479,480,481,482,483,484,485,486,487,488,489,490,491,492,493,494,495,496,497,498,499,500,501,502,503,504,505,506,507,508,509,510,511,512,513,514,515,516,517,518,519,520,521,522,523,524,525,526,527,528,529,530,531,532,533,534,535,536,537,538,539,540,541,542,543,544,545,546,547,548,549,550,551,552,553,554,555,556,557,558,559,560,561,562,563,564,565,566,567,568,569,570,571,572,573,574,575,576,577,578,579,580,581,582,583,584,585,586,587,588,589,590,591,592,593,594,595,596,597,598,599,600,601,602,603,604,605,606,607,608,609,610,611,612,613,614,615,616,617,618,619,620,621,622,623,624,625,626,627,628,629,630,631,632,633,634,635,636,637,638,639,640,641,642,643,644,645,646,647,648,649,650,651,652,653,654,655,656,657,658,659,660,661,662,663,664,665,666,667,668,669,670,671,672,673,674,675,676,677,678,679,680,681,682,683,684,685,686,687,688,689,690,691,692,693,694,695,696,697,698,699,700,701,702,703,704,705,706,707,708,709,710,711,712,713,714,715,716,717,718,719,720,721,722,723,724,725,726,727,728,729,730,731,732,733,734,735,736,737,738,739,740,741,742,743,744,745,746,747,748,749,750,751,752,753,754,755,756,757,758,759,760,761,762,763,764,765,766,767,768,769,770,771,772,773,774,775,776,777,778,779,780,781,782,783,784,785,786,787,788,789,790,791,792,793,794,795,796,797,798,799,800,801,802,803,804,805,806,807,808,809,810,811,812,813,814,815,816,817,818,819,820,821,822,823,824,825,826,827,828,829,830,831,832,833,834,835,836,837,838,839,840,841,842,843,844,845,846,847,848,849,850,851,852,853,854,855,856,857,858,859,860,861,862,863,864,865,866,867,868,869,870,871,872,873,874,875,876,877,878,879,880,881,882,883,884,885,886,887,888,889,890,891,892,893,894,895,896,897,898,899,900,901,902,903,904,905,906,907,908,909,910,911,912,913,914,915,916,917,918,919,920,921,922,923,924,925,926,927,928,929,930,931,932,933,934,935,936,937,938,939,940,941,942,943,944,945,946,947,948,949,950,951,952,953,954,955,956,957,958,959,960,961,962,963,964,965,966,967,968,969,970,971,972,973,974,975,976,977,978,979,980,981,982,983,984,985,986,987,988,989,990,991,992,993,994,995,996,997,998,999,1000,1001,1002,1003,1004,1005,1006,1007,1008,1009,1010,1011,1012,1013,1014,1015,1016,1017,1018,1019,1020,1021,1022,1023,1024,1025,1026,1027,1028,1029,1030,1031,1032,1033,1034,1035,1036,1037,1038,1039,1040,1041,1042,1043,1044,1045,1046,1047,1048,1049,1050,1051,1052,1053,1054,1055,1056,1057,1058,1059,1060,1061,1062,1063,1064,1065,1066,1067,1068,1069,1070,1071,1072,1073,1074,1075,1076,1077,1078,1079,1080,1081,1082,1083,1084,1085,1086,1087,1088,1089,1090,1091,1092,1093,1094,1095,1096,1097,1098,1099,1100,1101,1102,1103,1104,1105,1106,1107,1108,1109,1110,1111,1112,1113,1114,1115,1116,1117,1118,1119,1120,1121,1122,1123,1124,1125,1126,1127,1128,1129,1130,1131,1132,1133,1134,1135,1136,1137,1138,1139,1140,1141,1142,1143,1144,1145,1146,1147,1148,1149,1150,1151,1152,1153,1154,1155,1156,1157,1158,1159,1160,1161,1162,1163,1164,1165,1166,1167,1168,1169,1170,1171,1172,1173,1174,1175,1176,1177,1178,1179,1180,1181,1182,1183,1184,1185,1186,1187,1188,1189,1190,1191,1192,1193,1194,1195,1196,1197,1198,1199,1200,1201,1202,1203,1204,1205,1206,1207,1208,1209,1210,1211,1212,1213,1214,1215,1216,1217,1218,1219,1220,1221,1222,1223,1224,1225,1226,1227,1228,1229,1230,1231,1232,1233,1234,1235,1236,1237,1238,1239,1240,1241,1242,1243,1244,1245,1246,1247,1248,1249,1250,1251,1252,1253,1254,1255,1256,1257,1258,1259,1260,1261,1262,1263,1264,1265,1266,1267,1268,1269,1270,1271,1272,1273,1274,1275,1276,1277,1278,1279,1280,1281,1282,1283,1284,1285,1286,1287,1288,1289,1290,1291,1292,1293,1294,1295,1296,1297,1298,1299,1300,1301,1302,1303,1304,1305,1306,1307,1308,1309,1310,1311,1312,1313,1314,1315,1316,1317,1318,1319,1320,1321,1322,1323,1324,1325,1326,1327,1328,1329,1330,1331,1332,1333,1334,1335,1336,1337,1338,1339,1340,1341,1342,1343,1344,1345,1346,1347,1348,1349,1350,1351,1352,1353,1354,1355,1356,1357,1358,1359,1360,1361,1362,1363,1364,1365,1366,1367,1368,1369,1370,1371,1372,1373,1374,1375,1376,1377,1378,1379,1380,1381,1382,1383,1384,1385,1386,1387,1388,1389,1390,1391,1392,1393,1394,1395,1396,1397,1398,1399,1400,1401,1402,1403,1404,1405,1406,1407,1408,1409,1410,1411,1412,1413,1414,1415,1416,1417,1418,1419,1420,1421,1422,1423,1424,1425,1426,1427,1428,1429,1430,1431,1432,1433,1434,1435,1436,1437,1438,1439,1440,1441,1442,1443,1444,1445,1446,1447,1448,1449,1450,1451,1452,1453,1454,1455,1456,1457,1458,1459,1460,1461,1462,1463,1464,1465,1466,1467,1468,1469,1470,1471,1472,1473,1474,1475,1476,1477,1478,1479,1480,1481,1482,1483,1484,1485,1486,1487,1488,1489,1490,1491,1492,1493,1494,1495,1496,1497,1498,1499,1500,1501,1502,1503,1504,1505,1506,1507,1508,1509,1510,1511,1512,1513,1514,1515,1516,1517,1518,1519,1520,1521,1522,1523,1524,1525,1526,1527,1528,1529,1530,1531,1532,1533,1534,1535,1536,1537,1538,1539,1540,1541,1542,1543,1544,1545,1546,1547,1548,1549,1550,1551,1552,1553,1554,1555,1556,1557,1558,1559,1560,1561,1562,1563,1564,1565,1566,1567,1568,1569,1570,1571,1572,1573,1574,1575,1576,1577,1578,1579,1580,1581,1582,1583,1584,1585,1586,1587,1588,1589,1590,1591,1592,1593,1594,1595,1596,1597,1598,1599,1600,1601,1602,1603,1604,1605,1606,1607,1608,1609,1610,1611,1612,1613,1614,1615,1616,1617,1618,

Supplier/ Distributor	Paint/ Thinner	Worst Case Daily Usage	Requested Permit Limit (gpy)	SDS Sheet	Notes Regarding Usage
Forrest Technical Coatings	Copenhaver Gray	60	7800	Copenhaver Gray.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	Fab Tec White	60	7800	Fab Tec White.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	Flame Red	60	7800	Flame Red.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	Graphite Gray	60	7800	Graphite Gray.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	HAPs Free Thinner	6	780	HAPs Free Thinner.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	New Cat Yellow	60	7800	New Cat Yellow.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	Gray Primer	60	7800	Quick Primer Plus Gray.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Placeholder - Intentionally Left Blank.					
Forrest Technical Coatings	Safety Yellow	60	7800	Safety Yellow.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	Signal Blue	60	7800	Signal Blue.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	Stone	60	7800	Stone.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	Superior Orange	60	7800	Superior Orange.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	Terra Cotta	60	7800	Terra Cotta.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	White Primer	60	7800	White Primer.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	Kolberg Beige	60	7800	Kolberg Beige.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	Norberg Tan	60	7800	Norburg Tan.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.
Forrest Technical Coatings	Rim Yellow	60	7800	Rim Yellow.pdf	Assume 10% HAPs-Free Thinner, 90% Paint Mixture for Calculations.

Paint Notes:

Note that the value "###" in column E refers to the total combined annual paint usage of XXX gallons. The number is repeated for each paint in column A to ensure calculations on Paints tab populate correctly.

Product Name:		Capenhaver Gray		Note: This product is tested to meet the following provisions: With Part A, 10 % NMP, Free Phenol.			
Actual		PTE		Product A Density:			
49.50		49.50		Specific Gravity of A:			
4.77		4.77		VOC Content of A:			
31.18		31.18		Solid Content of A:			
3.10		3.10		Thinner Density:			
				VOC Content of Thinner:			
				100.00 %			
				244.88 g/l			

Assumes 60 g/lb/lb is applied during 100 hours in a water-based environment.

Actual and PTE assume a maximum of 100 g/lb/lb are applied.

Transferring particulate matter with 100% efficiency and 100% spray gun transfer efficiency and 100% PTE is based on Part A VOC content of 4.90% (actual) and 3.18% (PTE).

Test Results calculated according to provisions of 40 CFR, 101.10.

Actual		PTE	Product A Density:		8.97 g/gal				
Hourly Average Usage of Part B (lb/hr) ¹		53.82	Specific Gravity of A:						
Hourly Average Usage of Thinner (lb/hr) ²		4.77	VOC Content of A:		22.82 %				
Hourly Average Usage of Part C (lb/hr) ³		34.98	Solid Content of A:		245.12 g/l				
Hourly Average Usage of Thinner (lb/hr) ³		3.10	Thinner Density:		8.95 g/gal				
			VOC Content of Thinner:		100.00 %				
Component	Component Source	CAS number ⁴	Max Fraction ⁴	Emissions (lb/lb)	Emissions (g/g)	PTE (lb/lb)	PTE (g/g)	MAP	TAP (lb/lb)
2-Butoxyethanol	Thinner	111-76-2	25	3.38	2.33	3.38	2.33	X	
Ethyl 3-Ethoxypropionate	Thinner	263-68-9	45	2.15	1.40	2.15	1.40	X	
First Butyl Acrylate	Part A	340-89-5	45	22.18	14.48	22.18	14.48	X	
Thiobutyl Disulfide	Part A	13463-82-2	10	4.90	3.18	4.90	3.18	X	
1,2,4-Trimethylbenzene	Part A	95-83-6	10	4.90	3.18	4.90	3.18	X	
Aromatic Petroleum Distillates	Part A	64742-89-6	10	4.90	3.18	4.90	3.18	X	
Mineral Spirits	Part A	64742-89-6	10	4.90	3.18	4.90	3.18	X	
Solvent Naphthalene Light Alkylate	Part A	64742-89-6	10	4.90	3.18	4.90	3.18	X	
Carbon Black ⁵	Part A	1333-86-4	0.0121	0.01	0.01	0.01	0.01	X	
Cumene	Part A	98-82-8	1	0.54	0.35	0.54	0.35	X	
Methyl Ethyl Ketone	Part A	56-12-7	1	0.34	0.24	0.34	0.24	X	
Toluene	Part A	108-88-3	1	0.34	0.24	0.34	0.24	X	
VOC	Part A	108-88-3	—	—	—	—	—	—	
VOC	Thinner	100.00	—	—	—	—	—	—	
pH ⁶	Combined	—	—	17.05	11.08	17.05	11.08	—	
pH ⁶	Combined	—	—	0.33	0.21	0.33	0.21	—	
pH ⁶	Combined	—	—	1.61	1.05	1.61	1.05	—	

¹ Assume 80 gallons is sprayed/An 100 ft house in a worst case scenario.

² Actual and PTE assume a maximum of 100 g/gal are applied.

³ Based on productivity rates and (lb/hr) of the spray gun, average efficiency and 8.95 (lb) of VOC content of the 8.95 (lb) solvent used in the spray gun.

⁴ Data for CAS number obtained from the International Union of Pure and Applied Chemistry (IUPAC).

Assumes 60 g/lb/lb is applied during 100 hours in a water-based environment.

Actual and PTE assume a maximum of 100 g/lb/lb are applied.

Transferring particulate matter with 100% efficiency and 100% spray gun transfer efficiency and 100% PTE is based on Part A VOC content of 4.90% (actual) and 3.18% (PTE).

Test Results calculated according to provisions of 40 CFR, 101.10.

Hourly Average Usage of Parts (lb/hr) ¹		Actual	PTE	Product A Density: Specific Gravity of A:	2.38 (lb/gal)				
Hourly Average Usage of Thinner (lb/hr) ²		47.08	47.08						
Hourly Average Usage of Parts (lb/hr) ³		4.77	4.77						
Hourly Average Usage of Thinner (lb/hr) ³		31.12	31.12	VOC Content of A: Solid Content of A:	27.25 % 350.82 g/l				
Hourly Average Usage of Thinner (lb/hr) ³		3.10	3.10	Thinner Density: VOC Content of Thinner:	40.55 g/l 100.00 %				
Component	Component Source	CAS number	Max Fraction ⁴	Emissions (lb/lb)	Emissions (g/g)	PTE (lb/lb)	PTE (g/g)	MAP	TAP (lb/lb)
2-Ethoxyethanol	Thinner	111-26-2	25	3.38	2.33	3.38	2.33	X	X
Ethyl 3-Ethoxypropionate	Thinner	263-68-9	45	2.15	1.40	2.15	1.40	X	X
First Butyl Acrylate	Part A	340-89-5	45	22.55	14.00	22.55	14.00	X	X
Thiobutyl Disulfide	Part A	13463-82-2	10	4.90	3.18	4.90	3.18	X	X
1,2,4-Trimethylbenzene	Part A	95-83-6	10	4.90	3.18	4.90	3.18	X	X
Aromatic Petroleum Distillates	Part A	64742-89-6	10	4.79	3.11	4.79	3.11	X	X
Mineral Spirits	Part A	64742-89-6	10	4.79	3.11	4.79	3.11	X	X
Solvent Naphthalene Light Alkylate	Part A	64742-89-6	10	4.79	3.11	4.79	3.11	X	X
Carbon Black ⁵	Part A	1333-86-4	0.0121	0.01	0.01	0.01	0.01	X	X
Cumene	Part A	98-82-8	1	0.48	0.31	0.48	0.31	X	X
Methyl Ethyl Ketone	Part A	56-12-7	1	0.43	0.28	0.43	0.28	X	X
Toluene	Part A	108-88-3	1	0.43	0.28	0.43	0.28	X	X
VOC	Thinner	27.25	—	—	—	—	—	—	—
VOC	Thinner	100.00	—	—	—	—	—	—	—
pH ⁶	Combined	—	17.82	11.38	17.82	11.38	—	—	—
pH ⁶	Combined	—	1.29	0.82	1.29	0.82	—	—	—
pH ⁶	Combined	—	0.96	0.62	0.96	0.62	—	—	—

¹ Assume 62 gal/hr is applied during 10 hours in a work session.
² Actual and PTE assume a conversion of 100% efficiency and account for the 10% waste factor.
³ Assume 62 gal/hr is applied during 10 hours in a work session.
⁴ Assume 62 gal/hr is applied during 10 hours in a work session.
⁵ Assume 62 gal/hr is applied during 10 hours in a work session.
⁶ Assume 62 gal/hr is applied during 10 hours in a work session.

Product Name: Graphite Gray

Note: This product is tested to meet the following provisions: With Part A, 10 % NMP, Free Phenol.

Assumes 60 g/lb/lb is applied during 100 hours in a water-based environment.

Actual and PTE assume a maximum of 100 g/lb/lb are applied.

Transferring particulate matter with 100% efficiency and 100% spray gun transfer efficiency and 100% PTE is based on Part A VOC content of 4.90% (actual) and 3.18% (PTE).

Test Results calculated according to provisions of 40 CFR, 101.10.

Hourly Average Weight of Thinner (lb/hr) ¹		4.77	4.77	VOC Content of A:		24.94 %	243.75 g/l		
Hourly Average Weight of Part A (lb/hr) ²		31.82	31.82	Solid Content of A:		43.2 %			
Hourly Average Weight of Thinner (lb/hr) ³		3.10	3.10	Thinner Density:		7.95 lb/gal			
				VOC Content of Thinner:		100.00 %			
Component	Component Source	CAS number	Max Fraction ⁴	Emissions (lb/lb)	Emissions (g/g)	PTE (lb/lb)	PTE (g/g)	MAP	TAP (lb/lb)
2-Butoxyethanol	Thinner	111-76-3	25	3.38	2.33	3.38	2.33	X	
Ethyl 3-Ethoxypropionate	Thinner	263-68-10	45	2.15	1.40	2.15	1.40	X	
First Butyl Acrylate	Part A	340-89-5	45	22.18	14.48	22.18	14.48	X	
Thiobutyl Disulfide	Part A	13463-82-2	10	4.90	3.18	4.90	3.18	X	
1,2,4-Trimethylbenzene	Part A	95-83-7	10	4.90	3.18	4.90	3.18	X	
Aromatic Petroleum Distillates	Part A	64742-89-6	10	4.90	3.18	4.90	3.18	X	
Mineral Spirits	Part A	64742-89-6	10	4.90	3.18	4.90	3.18	X	
Solvent Naphthalene Light Alkylate	Part A	64742-89-6	10	4.90	3.18	4.90	3.18	X	
Carbon Black ⁵	Part A	1333-86-4	0.0121	0.01	0.01	0.01	0.01	X	
Cumene	Part A	98-82-8	1	0.54	0.35	0.54	0.35	X	
Methyl Ethyl Ketone	Part A	56-12-7	1	0.34	0.24	0.34	0.24	X	
Toluene	Part A	108-88-3	1	0.34	0.24	0.34	0.24	X	
VOC	Part A	24.30	—	—	—	—	—	—	—
VOC	Thinner	100.00	—	—	—	—	—	—	—
pH ⁶	Combined	—	—	18.98	11.04	18.98	11.04	—	—
pH ⁶	Combined	—	—	1.32	0.82	1.32	0.82	—	—
pH ⁶	Combined	—	—	0.98	0.62	0.98	0.62	—	—

¹ Assume 10 minutes of spray during 100 hours in a week per system.
² Actual and PTE assume a maximum of 100 g/g of dry solids.
³ Theoretical of particulate matter with 100% of A; 100 spray gun transfer efficiency; and 10.54% (10.5) pounds of dry solids per gallon of Part A.
⁴ Maximum of 100% of A.
⁵ Maximum based on testing to determine if 100% of A is 100% of A.

Product Name:	How Call Follow	Notes
Actual	PTE	Notes: This product is tested to meet the following provisions: With Part A, 10 % NMP, Free Phenol.
Product A Density:		Product A Density: 9.03 lb/gal

Assumes 60 g/lb/lb is applied during 100 hours in a water-based environment.

Actual and PTE assume a maximum of 100 g/l

[illegible]

Assumes 80 g/dwt is applied during 100 hours on a single use scenario.
Actual and TTI represent a maximum of 100 g/dwt are applied.
Transfer particles in contact with 100 g/dwt spray gun directly efficiency and 100 g/dwt is equal to 100 g/dwt industrial Vent Air filtration system.
*Value factors calculated according to the use case of 100 g/dwt, 100 hours.

Abstracts of papers presented at the 10th International Conference on the Chemistry of the Solid State, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676

^aAssesses 50 g of dry is sprayed during 10 s intervals on a solid non-absorbent surface.
^bInternal and PPS requires a maximum of 2000 g of dry is sprayed.
^cConcentration of particles per cubic meter with (diameter) 0.25 µm, spray gun, nozzle efficiency and 30:30:40 PPS is percent of PPS and 3:0:100 industrial fluid dry filtration system.
^dTrue particles collected according to manufacturer's PPS gun, 10% filter.

VOC Content of Thinner									
100.00 %									
Component	Component Source	CAS number	Mass Fraction ^a	Emissions (lb/hr)	Emissions (T/yr)	PTC (lb/hr)	PTC (T/yr)	HAP	TAP (lb/hr)
2-Butoxyethanol	Thinner	111-76-7	75	2.33	2.33	2.33	2.33		
Ethyl 3-Ethoxypropionate	Thinner	163-69-3	45	2.33	2.33	2.33	2.33		
tert-Butyl Acetate	Part A	540-88-9	25	19.97	12.58	19.97	12.58		
Thiuron Disulfide	Part A	13443-67-1	10	19.97	12.58	19.97	12.58		
2,2,4,4-Tetramethylpentane	Part A	36-63-10	10	3.73	3.73	3.73	3.73		
Aluminum Hydroxide	Part A	21845-53-2	10	3.73	3.73	3.73	3.73		
Aromatic Petroleum Distillates	Part A	64742-89-10	10	3.73	3.73	3.73	3.73		
Mineral Spirits	Part A	64742-89-10	10	3.73	3.73	3.73	3.73		
Silicon Dioxide	Part A	112546-32-9	10	3.73	3.73	3.73	3.73		
Solvent Naphthalene Light Aliphatics	Part A	64742-89-10	10	3.73	3.73	3.73	3.73		
Thiuron	Part A	188-52-12	1	0.57	0.57	0.57	0.57	X	
Methyl Ethyl Ketone	Part A	96-29-11	1	0.57	0.57	0.57	0.57		
Toluene	Part A	108-88-7	1	0.57	0.57	0.57	0.57	X	
Xylene	Part A	1322-20-7	1	0.57	0.57	0.57	0.57	X	
VOC	Thinner	—	100.00	—	—	—	—	—	—
VOC	Thinner	—	100.00	—	—	—	—	—	—
HAP ^b	Combined	—	—	37.35	11.55	37.35	11.55	—	—
HAP ^b	Combined	—	—	0.93	0.93	0.93	0.93	—	—
HAP ^b	Combined	—	—	1.71	1.71	1.71	1.71	—	—

^aAssumes 60 g/gal is sprayed during 100 hours in a worst case scenario.

^bActual and PTE assume a maximum of 100 g/gal are present.

^cUnvented particulate matter with (UAPM) 400 g/gal per cycle efficiency and 90.00% PTE is assumed for all VOCs contained within the Thinner System.

^dMass fractions calculated according to volume ratio of 80% paint, 10% thinner.

VOC Content of Thinner									
100.00 %									
Component	Component Source	CAS number	Mass Fraction ^a	Emissions (lb/hr)	Emissions (T/yr)	PTC (lb/hr)	PTC (T/yr)	HAP	TAP (lb/hr)
2-Butoxyethanol	Thinner	111-76-7	75	3.58	2.33	3.58	2.33		
Ethyl 3-Ethoxypropionate	Thinner	163-69-3	45	2.33	2.33	2.33	2.33		
tert-Butyl Acetate	Part A	540-88-9	25	22.38	14.55	22.38	14.55		
Thiuron Disulfide	Part A	13443-67-1	10	0.50	0.31	0.50	0.31		
2,2,4,4-Tetramethylpentane	Part A	36-63-10	10	4.97	3.23	4.97	3.23		
Aromatic Petroleum Distillates	Part A	64742-89-10	10	4.97	3.23	4.97	3.23		
Mineral Spirits	Part A	64742-89-10	10	4.97	3.23	4.97	3.23		
Solvent Naphthalene Light Aliphatics	Part A	64742-89-10	10	4.97	3.23	4.97	3.23		
Thiuron	Part A	188-52-12	1	0.50	0.31	0.50	0.31	X	
Methyl Ethyl Ketone	Part A	96-29-11	1	0.50	0.31	0.50	0.31		
Toluene	Part A	108-88-7	1	0.50	0.31	0.50	0.31	X	
Xylene	Part A	1322-20-7	1	0.50	0.31	0.50	0.31	X	
VOC	Thinner	—	100.00	—	—	—	—	—	—
VOC	Thinner	—	100.00	—	—	—	—	—	—
HAP ^b	Combined	—	—	15.99	11.58	15.99	11.58	—	—
HAP ^b	Combined	—	—	0.26	0.26	0.26	0.26	—	—
HAP ^b	Combined	—	—	1.41	1.41	1.41	1.41	—	—

^aAssumes 60 g/gal is sprayed during 100 hours in a worst case scenario.

^bActual and PTE assume a maximum of 100 g/gal are present.

^cUnvented particulate matter with (UAPM) 400 g/gal per cycle efficiency and 90.00% PTE is assumed for all VOCs contained within the Thinner System.

^dMass fractions calculated according to volume ratio of 80% paint, 10% thinner.

VOC Content of Thinner									
100.00 %									
Component	Component Source	CAS number	Mass Fraction ^a	Emissions (lb/hr)	Emissions (T/yr)	PTC (lb/hr)	PTC (T/yr)	HAP	TAP (lb/hr)
2-Butoxyethanol	Thinner	111-76-7	75	3.58	2.33	3.58	2.33		
Ethyl 3-Ethoxypropionate	Thinner	163-69-3	45	2.33	2.33	2.33	2.33		
tert-Butyl Acetate	Part A	540-88-9	25	22.38	14.55	22.38	14.55		
Thiuron Disulfide	Part A	13443-67-1	10	3.12	2.33	3.12	2.33		
2,2,4,4-Tetramethylpentane	Part A	36-63-10	10	5.12	3.23	5.12	3.23		
Aromatic Petroleum Distillates	Part A	64742-89-10	10	5.12	3.23	5.12	3.23		
Mineral Spirits	Part A	64742-89-10	10	5.12	3.23	5.12	3.23		
Solvent Naphthalene Light Aliphatics	Part A	64742-89-10	10	5.12	3.23	5.12	3.23		
Thiuron	Part A	188-52-12	1	0.51	0.31	0.51	0.31	X	
Methyl Ethyl Ketone	Part A	96-29-11	1	0.51	0.31	0.51	0.31		
Toluene	Part A	108-88-7	1	0.51	0.31	0.51	0.31	X	
Xylene	Part A	1322-20-7	1	0.51	0.31	0.51	0.31	X	
VOC	Thinner	—	100.00	—	—	—	—	—	—
VOC	Thinner	—	100.00	—	—	—	—	—	—
HAP ^b	Combined	—	—	24.87	11.55	24.87	11.55	—	—
HAP ^b	Combined	—	—	0.75	0.48	0.75	0.48	—	—
HAP ^b	Combined	—	—	1.54	1.00	1.54	1.00	—	—

^aAssumes 60 g/gal is sprayed during 100 hours in a worst case scenario.

^bActual and PTE assume a maximum of 100 g/gal are present.

^cUnvented particulate matter with (UAPM) 400 g/gal per cycle efficiency and 90.00% PTE is assumed for all VOCs contained within the Thinner System.

^dMass fractions calculated according to volume ratio of 80% paint, 10% thinner.

VOC Content of Thinner									
100.00 %									
Component	Component Source	CAS number	Mass Fraction ^a	Emissions (lb/hr)	Emissions (T/yr)	PTC (lb/hr)	PTC (T/yr)	HAP	TAP (lb/hr)
2-Butoxyethanol	Thinner	111-76-7	75	2.33	2.33	2.33	2.33		
Ethyl 3-Ethoxypropionate	Thinner	163-69-3	45	2.33	2.33	2.33	2.33		
tert-Butyl Acetate	Part A	540-88-9	25	19.97	12.44	19.97	12.44		
Thiuron Disulfide	Part A	13443-67-1	10	13.49	8.89	13.49	8.89		
2,2,4,4-Tetramethylpentane	Part A	36-63-10	10	3.43	2.29	3.43	2.29		
Aluminum Hydroxide	Part A	21845-53-2	10	3.43	2.29	3.43	2.29		
Aromatic Petroleum Distillates	Part A	64742-89-10	10	3.43	2.29	3.43	2.29		
Mineral Spirits	Part A	64742-89-10	10	3.43	2.29	3.43	2.29		
Solvent Naphthalene Light Aliphatics	Part A	64742-89-10	10	3.43	2.29	3.43	2.29		
Thiuron	Part A	188-52-12	1	0.51	0.31	0.51	0.31	X	
Methyl Ethyl Ketone	Part A	96-29-11	1	0.51	0.31	0.51	0.31		
Toluene	Part A	108-88-7	1	0.51	0.31	0.51	0.31	X	
Xylene	Part A	1322-20-7	1	0.51	0.31	0.51	0.31	X	
VOC	Thinner	—	100.00	—	—	—	—	—	—
VOC	Thinner	—	100.00	—	—	—	—	—	—
HAP ^b	Combined	—	—	37.35	11.55	37.35	11.55	—	—
HAP ^b	Combined	—	—	0.93	0.93	0.93	0.93	—	—
HAP ^b	Combined	—	—	1.71	1.71	1.71	1.71	—	—

^aAssumes 60 g/gal is sprayed during 100 hours in a worst case scenario.

^bActual and PTE assume a maximum of 100 g/gal are present.

^cUnvented particulate matter with (UAPM) 400 g/gal per cycle efficiency and 90.00% PTE is assumed for all VOCs contained within the Thinner System.

^dMass fractions calculated according to volume ratio of 80% paint, 10% thinner.

VOC Content of Thinner									
100.00 %									
Component	Component Source	CAS number	Mass Fraction ^a	Emissions (lb/hr)	Emissions (T/yr)	PTC (lb/hr)	PTC (T/yr)	HAP	TAP (lb/hr)
2-Butoxyethanol	Thinner	111-76-7	75	3.58	2.33	3.58	2.33		
Ethyl 3-Ethoxypropionate	Thinner	163-69-3	45	2.33	2.33	2.33	2.33		
tert-Butyl Acetate	Part A	540-88-9	25	22.38	14.55	22.38	14.55		
Thiuron Disulfide	Part A	13443-67-1	10	3.12	2.33	3.12	2.33		
2,2,4,4-Tetramethylpentane	Part A	36-63-10	10	5.12	3.23	5.12	3.23		
Aromatic Petroleum Distillates	Part A	64742-89-10	10	5.12	3.23	5.12	3.23		
Mineral Spirits	Part A	64742-89-10	10	5.12	3.23	5.12	3.23		
Solvent Naphthalene Light Aliphatics	Part A	64742-89-10	10	5.12	3.23	5.12	3.23		
Thiuron	Part A	188-52-12	1	0.51	0.31	0.51	0.31	X	
Methyl Ethyl Ketone	Part A	96-29-11	1	0.51	0.31	0.51	0.31		
Toluene	Part A	108-88-7	1	0.51	0.31	0.51	0.31	X	
Xylene	Part A	1322-20-7	1	0.51	0.31	0.51	0.31	X	
VOC	Thinner	—	100.00	—	—	—	—	—	—
VOC	Thinner	—	100.00	—	—	—	—	—	—
HAP ^b	Combined	—	—	24.87	11.55	24.87	11.55	—	—
HAP ^b	Combined	—	—	0.75	0.48	0.75	0.48	—	—
HAP ^b	Combined	—	—	1.54	1.00	1.54	1.00	—	—

^aAssumes 60 g/gal is sprayed during 100 hours in a worst case scenario.

^bActual and PTE assume a maximum of 100 g/gal are present.

^cUnvented particulate matter with (UAPM) 400 g/gal per cycle efficiency and 90.00% PTE is assumed for all VOCs contained within the Thinner System.

^dMass fractions calculated according to volume ratio of 80% paint, 10% thinner.

Component	Part A	59.88.9	1	0.51	0.51	0.51	0.51	8	8
Methyl Ethyl Ketone	Part A	96.29.12	1	0.51	0.51	0.51	0.51	8	8
Isobutane	Part A	1310.20.7	1	0.51	0.51	0.51	0.51	8	8
Isobutane	Part A	108.88.3	1	0.51	0.51	0.51	0.51	8	8
VOC	Part A	25.12	1	0.51	0.51	0.51	0.51	8	8
VOC	Thinner	100.00	1	0.51	0.51	0.51	0.51	8	8
VOC	Combined	17.53	1	0.51	0.51	0.51	0.51	8	8
MDI	Part A	1.43	1	0.51	0.51	0.51	0.51	8	8
MDI	Combined	1.43	1	0.51	0.51	0.51	0.51	8	8

Assumes 80 gallons is sprayed during 100 hours in a worst case scenario.

Actual and PTE assume a maximum of 100 gallons are sprayed.
 Assumed particulate matter with (PM₁₀) 40% spray gun transfer efficiency and 90.5% PTE. 3 control of PTE by 90.5% reduced VOC by 10% from 100%.

*VOC fractions calculated according to molecular weight of 406 g/mol, 10% lower.

Product Name:	Rolling Top	PTI	Product A Density: 8.56 lb/gal						
Hourly Average Usage of Part (lb/hr) ¹	57.36	57.36	Specific Gravity of A:	0.51					
Hourly Average Usage of Thinner (lb/hr) ²	4.77	4.77	VOC Content of A:	21.66 %	250.88 g/l				
Hourly Average Usage of Part (VOC) ³	17.28	17.28	Solids Content of A:	53.04 %					
Hourly Average Usage of Thinner (VOC) ⁴	1.10	1.10	Thinner Density:	8.95 lb/gal					
			VOC Content of Thinner:	100.00 %					
Component	Component Source	CAS number	Max Fraction ⁵	Emissions (lb/hr)	Emissions (VOC)	PTI (lb/hr)	PTI (VOC)	MDI	TAP (lb/hr)
2-Butoxyethanol	Thinner	111.76-7	75	3.58	2.13	3.58	2.13		8
Ethyl Ethoxyacetate	Thinner	163-69-4	45	2.15	1.40	2.15	1.40		8
Ethyl Butyl Acetate	Part A	540-88-10	35	20.08	13.05	20.08	13.05		X
Ethyl Hexylacetate	Part A	95-43-11	10	5.14	3.23	5.14	3.23		8
Hexamethylcyclotrisiloxane	Part A	11845-51-2	10	3.14	2.29	3.14	2.29		8
Hexamethylcyclotrisiloxane	Part A	6442-89-6	10	3.14	2.29	3.14	2.29		8
Hexamethylcyclotrisiloxane	Part A	13443-82-12	0.75/75	0.45	0.30	0.45	0.30		8
Iron Oxide	Part A	1309-37-1	0.11/11	0.18	0.12	0.18	0.12		X
Solvent Naphthalene Light Aliphatic	Part A	8442-89-8	10	3.14	2.29	3.14	2.29		8
Methyl Ethyl Ketone	Part A	6442-89-12	10	5.14	3.23	5.14	3.23		8
Isobutane	Part A	95-89-7	1	0.51	0.51	0.51	0.51		X
Methyl Ethyl Ketone	Part A	56-29-1	1	0.51	0.51	0.51	0.51		8
Isobutane	Part A	1300-20-7	1	0.51	0.51	0.51	0.51		X
Isobutane	Part A	108-88-3	1	0.51	0.51	0.51	0.51		X
VOC	Part A	21.66	1	0.51	0.51	0.51	0.51		X
VOC	Thinner	100.00	1	0.51	0.51	0.51	0.51		8
VOC	Combined	17.21	1	0.51	0.51	0.51	0.51		13.25
MDI	Part A	1.44	1	0.51	0.51	0.51	0.51		8
MDI	Combined	1.44	1	0.51	0.51	0.51	0.51		8

Assumes 80 gallons is sprayed during 100 hours in a worst case scenario.

Actual and PTE assume a maximum of 100 gallons are sprayed.
 Assumed particulate matter with (PM₁₀) 40% spray gun transfer efficiency and 90.5% PTE. 3 control of PTE by 90.5% reduced VOC by 10% from 100%.

*VOC fractions calculated according to molecular weight of 406 g/mol, 10% lower.

Product Name:		Roll Top	PTI	Note: This product is made from the following proportions: 80% Part A, 10% Part B and 10% Primer.					
Product A Density:		8.46 lb/gal							
Specific Gravity of A:		0.51							
Hourly Average Usage of Part (lb/hr) ¹	50.76	50.76							
Hourly Average Usage of Thinner (lb/hr) ²	4.77	4.77							
Hourly Average Usage of Part (VOC) ³	12.99	12.99							
Hourly Average Usage of Thinner (VOC) ⁴	1.10	1.10							
VOC Content of A:		24.82 %			248.55 g/l				
Solids Content of A:		49.3 %							
Thinner Density:		8.95 lb/gal							
VOC Content of Thinner:		100.00 %							
Component	Component Source	CAS number	Max Fraction ⁵	Emissions (lb/hr)	Emissions (VOC)	PTI (lb/hr)	PTI (VOC)	MDI	TAP (lb/hr)
2-Butoxyethanol	Thinner	111-76-7	75	3.58	2.13	3.58	2.13		8
Ethyl Ethoxyacetate	Thinner	162-65-18	45	2.15	1.40	2.15	1.40		8
Ethyl Butyl Acetate	Part A	540-88-10	35	20.08	13.05	20.08	13.05		8
Ethyl Hexylacetate	Part A	95-43-11	10	5.08	3.30	5.08	3.30		8
Hexamethylcyclotrisiloxane	Part A	64143-95-5	10	3.30	2.19	3.30	2.19		8
Hexamethylcyclotrisiloxane	Part A	11845-51-2	10	3.30	2.19	3.30	2.19		8
Hexamethylcyclotrisiloxane	Part A	18442-89-6	10	3.30	2.19	3.30	2.19		8
Hexamethylcyclotrisiloxane	Part A	13443-82-12	0.75/75	0.45	0.30	0.45	0.30		8
Iron Oxide	Part A	1309-37-1	0.11/11	0.18	0.12	0.18	0.12		8
Solvent Naphthalene Light Aliphatic	Part A	8442-89-8	10	3.30	2.19	3.30	2.19		8
Methyl Ethyl Ketone	Part A	540-88-10	10	5.08	3.30	5.08	3.30		8
Isobutane	Part A	1310-20-7	1	0.51	0.51	0.51	0.51		8
Isobutane	Part A	108-88-3	1	0.51	0.51	0.51	0.51		8
VOC	Part A	24.82	1	0.51	0.51	0.51	0.51		8
VOC	Thinner	100.00	1	0.51	0.51	0.51	0.51		8
VOC	Combined			17.17	11.28	17.17	11.28		8
MDI	Part A	1.43	1	0.51	0.51	0.51	0.51		8
MDI	Combined			1.43	0.92	1.43	0.92		8

Assumes 80 gallons is sprayed during 100 hours in a worst case scenario.

Actual and PTE assume a maximum of 100 gallons are sprayed.
 Assumed particulate matter with (PM₁₀) 40% spray gun transfer efficiency and 90.5% PTE. 3 control of PTE by 90.5% reduced VOC by 10% from 100%.

*VOC fractions calculated according to molecular weight of 406 g/mol, 10% lower.

	EF*	Control Efficiency	Emissions**	
	lb/1000 lb	%	lb/hr	Tpy
PM10	13	0%	0.650	0.65
PM2.5	1.3	0%	0.065	0.07

*AP-42 13.2.6-1

** Assumes an 10 hour work day

Maximum blasting material = 500.00 lbs/hr Rated paint gun capacity.
Total Annual Blast Material Used: 100000 lb/yr Note: Used 77000 lbs of media in 2017,
Annual Hours of Operation = 200 hr/yr
Daily Hours of Operation = 10 hr/day

General Abrasive Blasting Note: Abrasive Blasting emissions all occur in blasting pit outside and is considered fugitive since emissions are not readily capturable. Emissions from abrasive blasting are therefore not included in modeling as per Darrin Pampalan, DEQ Air Permitting Coordinator. Abrasive blasting emissions are included in facility-wide EI for Major/Minor source demonstration.

Primary Media: Silica Quartz Sand						
TAP	CAS	585/586	Max Fraction	Max lb/hr	T/yr	24-Hour Average lb/hr
Crystalline Silica Quar	14808-60-7	585	0.994	6.46E-02	6.46E-02	2.69E-02

Alternative Media Requested for inclusion in P-2019-0006: Emerald Creek Garnet Sand						
TAP	CAS	585/586	Max Fraction	Max lb/hr	T/yr	24-Hour Average lb/hr
Almandine Garnet	1302-62-1	NA	0.95	6.18E-02	6.18E-02	NA
Crystalline Silica Quar	14808-60-8	585	0.05	3.25E-03	3.25E-03	1.35E-03
Staurolite	12182-56-8	NA	0.01	6.50E-04	6.50E-04	NA

Alternative Abrasive Media Note: The content of regulated TAPs i.e. crystalline silica in this alternative media is only 5% whereas the sand media currently permitted by P-2019-0006 consists of 95% crystalline silica meaning that, at identical usage rates, the emissions of TAPs will fall precipitously once Fab Tec makes this switch in media.

Particulate Emissions from Grinding/Finishing:

Product Name	Stainless Steel/ Mild Steel/ Aluminum
Filtration System Control Efficiency	90.94 %
Daily Hours of Operation	10 hrs/day
Annual Operational Hours ¹	3,120 Hours/yr
PM10 emission rate (lbs/ton of grinding media used) ²	6.00E+00 lb/ton
Tons of Grinding Media Used	1.395 tons/yr
Actual and PTE PM10 emissions (lbs/hr)	2.43E-04 lbs/hr
Actual and PTE PM10 emissions (tpy)	3.79E-04 tpy
Actual and PTE PM2.5 emissions (lbs/hr) ³	1.82E-04 lbs/hr
Actual and PTE PM2.5 emissions (tpy)	2.84E-04 tpy

¹ 10 hrs/day, 6 days/wk, 52 weeks/yr = 3120 hrs/yr.

² Assume 75% of particulate consists of PM2.5 as per data presented in study: "The Analysis of Particles Emission During the Process of Grinding of Steel EN 90MnV8," by M. ilic, et al., Metallurgica Volune 53 (2014) Issue 2 Pages 189-192.

³ AP-42 Chapter 12 Section 13, Table 12-13-2; Note: Two EF values were published: 0.54 lb/ton and 6.0 lb/ton. 6.0 lb/ton was selected for use to ensure conservative estimates of PM production.

Grinding Media Usage Notes from Client Meeting with Stantec:

Fab Tec uses two different sizes of grinding wheel:

5-inch disks weighing 6 oz/disk (450 disks/year maximum usage)

7-inch wheels weighing 29 oz/disk (30 wheels/year maximum usage)

For 5-inch disks, Fab Tec staff use 1 inch and then throw it out. The 4 remaining inches weigh 3.4 oz and is thrown out. For 29-inch wheels, approximately 16 oz of each disk is discarded. Roy brought in a kitchen scale to perform these measurements.

To ensure conservative calculations, assume that none of the disk or wheel media is discarded and apply a 50X multiplier to actual annual grinding media usage. This very large factor of safety with respect to particulate emissions from grinding is intended to serve as support for a request that monitoring of grinding media usage not be required by Fab Tec's eventual permit.

lbs of grinding media used per year:

Actual Grinding Media Usage in lbs/yr = (450 disk/yr) X (6 oz) X (1 lb/64 oz) + (30 disk/yr) X (29 oz) X (1 lb/64 oz) = 55.8 lbs/yr

Estimated for EI Grinding Media Usage in lbs/yr = 50 X [(450 disk/yr) X (6 oz) X (1 lb/64 oz) + (30 disk/yr) X (29 oz) X (1 lb/64 oz)] = 2789.06 lbs/yr

Plasma Cutting Operations - Shops 1 - 3	
Maximum Daily Plasma Cut Length for all Tables and Torches Combined (in/day) ¹	4100
Hours/Year for Both Plasma Cutting Tables ²	6240
Hours/Year for All Three Portable Plasma Torches ³	624
Control Efficiency (%) for Shops 1-3	0.0084
Control Efficiency (%) for Tables ⁴	0.10

¹ Daily maximum plasma cutting length of 4100 in/day during a 10-hour operating day from staff sample monitoring records for Aug. Sept. 2018.

² Hours per year = (2 Tables) x (10 hr/day) x (6 day/wk) x (52 wk/yr)

³ There are no controls on the three portable plasma cutters. Hours per year = (3 torches) x (662 hr/day per torch) x (6 day/wk) x (52 wk/yr)

⁴ Over water plasma cutting table - 90% control of fume emissions according to Emissions of Fume, Nitrogen Dioxide, and Nitric in Plasma Cutting of Stainless and Mild Steel, by Brönner, B. et al, Swedish Institute of Production Engineering Research, Göteborg, Sweden, 1994.

Note: Both plasma tables are above-water tables. Above-water table provides 90% control of fume emissions as per refs below. Tables are custom designed by Fab Tec. Assumes 2 hr/day combined usage of all three hand torches.

Particulate Matter Emissions Calculations	Uncontrolled Dry (Non-water table) Table and Torch Emission Rate - Actual and PTE		Uncontrolled Water Table (90% Reduction of PM vs non-water table) and Uncontrolled Torch Emission Rate - Actual and PTE		90.94% Fume Control from T-4500 Air Filtration System - Actual and PTE	
	Emissions Rate ¹ lbs/hr	Emissions Rate ¹ tpy	Emissions Rate lbs/hr	Emissions Rate tpy	Emissions Rate lbs/hr	Emissions Rate tpy
Mild Steel Metal PM10 Generation Rate	2.38E-02	8.17E-02	4.33E-03	1.35E-02	3.32E-04	1.22E-03
Mild Steel Metal PM2.5 Generation Rate ²	2.38E-02	8.17E-02	4.33E-03	1.35E-02	3.32E-04	1.22E-03

¹ Size Distribution and Rate of Production of Airborne Particulate Matter Generated During Metal Cutting.

Prepared for US DOE for the International University Hemispheric Center for Environmental Technology, January 2001, Grant # DE-FC21-95EW55594. PM2.5 fractions of PM10 assumed to be 100%.

² Assume that 100% of PM emissions are PM2.5.

Oxides of Nitrogen Emissions Calculations	Actual and PTE	
	Emissions Rate ¹ lbs/hr	Emissions Rate ¹ tpy
Mild Steel Metal NOx Generation Rate	6.43E-01	2.09E+00

¹ Emissions of Fume, Nitrogen Dioxide and Nitric in Plasma Cutting of Stainless and Mild Steel, by Brönner et al, The Swedish Institute of Production Engineering Research, Göteborg, Sweden.

Calculation of NOx Emission Factor				
L/min Emission Factor ¹	l/hr	mol/hr	g/hr	lb/hr
3.3	180	8.30	282.01	6.42E-01

¹ Emissions of Fume, Nitrogen Dioxide and Nitric in Plasma Cutting of Stainless and Mild Steel, by Brönner et al, The Swedish Institute of Production Engineering Research, Göteborg, Sweden.

Calculation Notes for NOx:

Assumptions: a. Used M.W. for NO2 as M.W. of NOx (46.0055 g/mol), from "Procedures for Preparing Emission Factor Documents," EPA-454/R-95-015, EPA, 1991
b. Avogadro's Number: 1 mole of gas = 6.02214076E23 mol⁻¹
c. 1 mole of any gas at STP = 22.4 L ("Chemistry and Chemical Reactivity," 4th Ed., Kotz and Treichel, 1999)

Emission Factors for Mild Steel Cutting	CAS #	Mild Steel E ¹	24-Hr	%
Aluminum	7429-90-5	0.025%	585	X
Antimony	7440-36-0	0.450%	585	X
Arsenic	7440-38-2	0.045%	585	X
Beryllium	7440-41-7	0.045%	585	X
Boron	7440-42-8	0.450%	585	X
Cadmium	7440-43-9	0.005%	585	X
Calcium	7440-70-2	0.450%	585	X
Carbon	7440-44-0	0.600%	585	X
Chromium (excluding Cr ⁶⁺)	7440-47-3	0.600%	585	X
Cobalt	7440-48-4	0.045%	585	X
Copper	7440-50-8	0.450%	585	X
Lead	7439-92-1	0.035%	585	X
Magnesium	7439-95-4	0.450%	585	X
Manganese	7439-96-5	1.000%	585	X
Molybdenum	7439-98-7	0.450%	585	X
Nickel	7440-01-5	0.450%	585	X
Nitrogen	7727-37-9	0.450%	585	X
Phosphorus	7723-14-0	0.450%	585	X
Selenium	7782-49-2	0.450%	585	X
Silicon	7440-21-3	0.450%	585	X
Sulfur	7446-09-05	0.450%	585	X
Tin	7440-31-9	0.450%	585	X
Tungsten	7440-32-6	0.450%	585	X
Vanadium	7440-42-3	0.450%	585	X
Zinc	7440-48-4	0.050%	585	X
Iron	7439-89-4	80.350%	585	X

¹ Emission factors are based on worst case concentrations from SDS.

Emission Calculations for Mild Steel Cutting (lb/hr)	CAS #	Mild Steel lb/hr	24-Hour or Annual Average lb/hr	PTE tpy
Aluminum	7429-90-5	9.80E-06	4.08E-06	9.33E-09
Antimony	7440-36-0	1.76E-06	7.33E-07	1.68E-07
Arsenic	7440-38-2	1.76E-07	4.03E-08	9.10E-09
Beryllium	7440-41-7	1.76E-07	4.03E-08	9.10E-09
Boron	7440-42-8	1.76E-06	7.33E-07	1.68E-07
Cadmium	7440-43-9	1.80E-08	4.48E-09	1.01E-09
Calcium	7440-70-2	1.76E-06	7.33E-07	1.68E-07
Carbon	7440-44-0	2.35E-06	9.80E-07	2.24E-07
Chromium (excluding Cr ⁶⁺)	7440-47-3	2.35E-06	9.80E-07	2.24E-07
Cobalt	7440-48-4	1.76E-07	7.33E-08	1.68E-08
Copper	7440-50-8	1.76E-06	7.33E-07	1.68E-07
Lead	7439-92-1	1.37E-07	5.72E-08	1.31E-08
Magnesium	7439-95-4	1.76E-06	7.33E-07	1.68E-07
Manganese	7439-96-5	3.92E-06	1.61E-06	3.73E-07
Molybdenum	7439-98-7	1.76E-06	7.33E-07	1.68E-07
Nickel	7440-01-5	1.76E-06	7.33E-07	1.68E-07
Nitrogen	7727-37-9	1.76E-06	7.33E-07	1.68E-07
Phosphorus	7723-14-0	1.76E-06	7.33E-07	1.68E-07
Selenium	7782-49-2	1.76E-06	7.33E-07	1.68E-07
Silicon	7440-21-3	1.76E-06	7.33E-07	1.68E-07
Sulfur	7446-09-05	1.76E-06	7.33E-07	1.68E-07
Tin	7440-31-9	1.76E-06	7.33E-07	1.68E-07
Tungsten	7440-32-6	1.76E-06	7.33E-07	1.68E-07
Vanadium	7440-42-3	1.76E-07	7.33E-08	1.68E-08
Zinc	7440-48-4	1.80E-07	8.17E-08	1.87E-08
Iron	7439-89-4	3.53E-04	1.43E-04	3.35E-05
[Controlled Actual and PTE] Total HAPs			4.75E-06	1.08E-06

Fish Sea water only (fish and fish feed) used, in 2017, 2018 and 2019 was consumed at Fish Sea.

Feed Conversion Ratio	Actual 2017/18/19	2017/18/19 Target	2017/18/19 Actual
Actual 2017/18/19	1.00	1.00	1.00

Feed Conversion Ratio (FCR) is calculated as follows:

FCR = (Weight of feed) / (Weight of fish produced) = 1.00

Operating Income per Ton	2017	2018	2019
Operating Income per Ton	1.00	1.00	1.00

FCR is calculated as follows: FCR = (Weight of feed) / (Weight of fish produced) = 1.00

Location of Activity	Actual 2017/18/19		Actual 2017/18/19	
	2017	2018	2017	2018
2017	1.00	1.00	1.00	1.00
2018	1.00	1.00	1.00	1.00
2019	1.00	1.00	1.00	1.00
Total	3.00	3.00	3.00	3.00

FCR is calculated as follows: FCR = (Weight of feed) / (Weight of fish produced) = 1.00

Actual 2017/18/19		Actual 2017/18/19		Actual 2017/18/19		Actual 2017/18/19	
2017	2018	2017	2018	2017	2018	2017	2018
2017	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2018	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2019	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total	3.00	3.00	3.00	3.00	3.00	3.00	3.00

FCR is calculated as follows:

FCR = (Weight of feed) / (Weight of fish produced) = 1.00

Fab Tec Hours:

10 hr/day

Non Combustion TAPs								
Idaho State TAP	CAS #	Emissions (lb/hr)	Emissions (T/yr)	PTE (lb/hr)	PTE (T/yr)	24-hr or Annual Average (lb/hr)	HAP's PTE (lb/yr)	IDAPA 58.01.01.585/586
2-Butoxyethanol	111-76-2	3.58	2.33	3.58	2.33	1.49E+00		585
Tert Butyl Acetate	540-88-5	22.38	14.55	22.38	14.55	9.33E+00		585
Carbon Black3	1333-86-4	0.02	0.01	0.02	0.01	7.85E-03		585
Cumene	98-82-8	0.57	0.37	0.57	0.37	1.31E-01	2.51	585
Xylene	1330-20-7	0.59	0.37	0.57	0.37	1.31E-01	2.51	585
Toluene	108-88-3	0.57	0.37	0.57	0.37	1.31E-01	2.51	585
Iron Oxide3	1309-37-1	0.43	0.28	0.43	0.28	1.79E-01		585
Zinc Oxide3	1314-13-2	0.17	0.11	0.11	0.11	7.23E-02		585

HAP	CAS #	585/586	Abrasive Blasting tpy	NG Heaters tpy	Non- Combustion (Paints) tpy	Welding tpy	Plasma Cutting tpy	Grinding tpy	PTE tpy	>10 tpy of any single HAP or >25 of all HAPs Combined?
Cumene	98-82-8	585			2.51				2.51E+00	No
Xylene	1330-20-7	585			2.51				2.51E+00	No
Toluene	108-88-3	585		3.29E-05	2.51				2.51E+00	No
POM ¹				9.28E-08					9.28E-08	No
Benzene	71-43-2	586		2.03E-05					2.03E-05	No
Benzo(g,h,i)perylene ²	191-74-2	586		1.16E-08					1.16E-08	No
Dichlorobenzene ³	25321-22-6	586		9.43E-07					9.43E-07	No
Formaldehyde	50-00-0	586		7.25E-04					7.25E-04	No
Naphthalene	91-20-3	586		5.89E-06					5.89E-06	No
Arsenic	7440-38-2	586		1.93E-06			9.20E-09		1.94E-06	No
Beryllium	7440-41-7	586		1.16E-07			9.20E-09		1.25E-07	No
Cadmium	7440-43-9	586		1.06E-05			1.02E-09		1.06E-05	No
Chromium	7440-47-3	586		1.35E-05			2.24E-07		1.38E-05	No
Cobalt	7440-48-4	585		8.12E-07			1.68E-08		8.28E-07	No
Manganese	7439-96-5	585		3.67E-06		3.59E-04	3.73E-07		3.63E-04	No
Nickel	7440-02-0	586		1.03E-05			1.01E-07		1.04E-05	No
Selenium	7782-49-2	585		2.32E-07			1.68E-07		4.00E-07	No
Antimony	7440-36-0	585					1.68E-07		1.68E-07	No
Phosphorus	7723-14-0	585					1.68E-07		1.68E-07	No
Lead	7439-92-1	586					1.31E-08		1.31E-08	No
Annual Total HAPs Emissions (tpy) =									7.54E+00	No

1. POM is the combination of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene

2. Designated as HAPs due to presence of at least one aromatic ring i.e. a "benzene ring".

Actual pounds per hour Emissions								Actual tons per year Emissions							
Process	PM10	PM2.5	NOx	SO2	CO	VOC	HAPs	Process	PM10	PM2.5	NOx	SO2	CO	VOC	HAPs
Paints	1.05E+00	1.05E+00				2.37E+01	1.72E+00	Paints	6.84E-01	6.84E-01				1.54E+01	1.12E+00
NG Heaters	1.52E-03	1.52E-03	2.07E-01	1.32E-03	8.82E-02	1.21E-02	2.50E-02	NG Heaters	2.37E-03	2.37E-03	3.23E-01	2.06E-03	1.38E-01	1.89E-02	2.50E-02
Abrasive Blasting	6.50E-01	6.50E-02						Abrasive Blasting	6.50E-01	6.50E-02					
Welding	5.08E-02	5.08E-02				5.25E-05		Welding	2.71E-02	2.71E-02					3.59E-04
Grinding	2.43E-04	1.82E-04						Grinding	3.79E-04	2.84E-04					
Plasma Cutting	3.92E-04	3.92E-04	8.42E-01				4.75E-06	Plasma Cutting	1.22E-03	1.22E-03	2.89E+00				1.08E-06
Total	1.76	1.17	1.05	0.00	0.09	23.74	1.75	Total	1.37	0.78	3.21	0.00	0.14	15.44	1.14
BRC Threshold								1.50 1.00 4.00 4.00 10.00 4.00							
Modeling Required								No No No No No							

PTE pounds per hour Emissions								PTE tons per year Emissions							
Process	PM10	PM2.5	NOx	SO2	CO	VOC	HAPs	Process	PM10	PM2.5	NOx	SO2	CO	VOC	HAPs
Paints	1.05E+00	1.05E+00				2.37E+01	1.72E+00	Paints	6.84E-01	6.84E-01				1.54E+01	1.12E+00
NG Heaters	1.52E-03	1.52E-03	2.07E-01	1.32E-03	8.82E-02	1.21E-02	2.50E-02	NG Heaters	6.65E-03	6.65E-03	9.08E-01	5.80E-03	3.86E-01	5.31E-02	2.50E-02
Abrasive Blasting	6.50E-01	6.50E-02						Abrasive Blasting	6.50E-01	6.50E-02					
Welding	5.08E-02	5.08E-02				5.25E-05		Welding	2.71E-02	2.71E-02					3.59E-04
Grinding	2.43E-04	1.82E-04						Grinding	3.79E-04	2.84E-04					
Plasma Cutting	3.92E-04	3.92E-04	8.42E-01				4.75E-06	Plasma Cutting	1.22E-03	1.22E-03	2.89E+00				1.08E-06
Total	1.76	1.17	1.05	0.00	0.09	23.74	1.75	Total	1.37	0.78	0.91	0.01	0.39	15.48	1.14

Uncontrolled PTE tons per year Emissions								
Process	PM10	PM2.5	NOx	SO2	CO	VOC	HAPs	Any Single HAP
Paints	7.55E+00	7.55E+00				1.54E+01	7.54E+00	
NG Heaters	7.34E-02	7.34E-02	9.08E-01	5.80E-03	3.86E-01	5.31E-02	8.36E-04	
Abrasive Blasting	6.50E-01	6.50E-02						
Welding	2.71E-02	2.71E-02					3.59E-04	
Grinding	4.18E-03	3.14E-03						
Plasma Cutting	1.35E-02	1.35E-02	2.89E+00				1.25E-06	
Total	8.32	7.74	3.80	0.01	0.39	15.48	7.54	2.51



**STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY**

Version 1, August 2010

Facility Wide Hazardous Air Pollutant Potential to Emit

Fab Tec, Inc.

Submitted with PTC Addendum

May 23, 2019

Table 1 contains Fab Tec, Inc.'s HAP inventory. All calculations related to HAPs, TAPs, and criteria pollutants can be found in the file "Emissions_Inventory_FabTec_Permit Modification_20190523", included with this submission.

Table 1 HAP POTENTIAL TO EMIT EMISSIONS SUMMARY

HAP Pollutants	PTE (T/yr)
Cumene	2.51E+00
Xylene	2.51E+00
Toluene	2.51E+00
POM ¹	9.28E-08
Benzene	2.03E-05
Benzo(g,h,i)perylene ²	1.16E-08
Dichlorobenzene ²	9.43E-07
Formaldehyde	7.25E-04
Naphthalene	5.89E-06
Arsenic	1.94E-06
Beryllium	1.25E-07
Cadmium	1.06E-05
Chromium	1.38E-05
Cobalt	8.28E-07
Manganese	3.63E-04
Nickel	2.04E-05
Selenium	4.00E-07
Antimony	1.68E-07
Phosphorus	1.68E-07
Lead	1.31E-08
Total	7.54E+00

1. POM is the combination of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene.
2. Designated as HAPs due to presence of at least one aromatic ring i.e. a "benzene ring".



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

Version 1, August 2010

Toxic Air Pollutant Emissions Inventory

Fab Tec, Inc.

Submitted with PTC Addendum

May 23, 2019

Table presents Fab Tec, Inc.'s pre-permit emission rates for all sources at the facility including abrasive blasting, natural gas-fired space heaters, paints, welding, plasma cutting, and grinding.

Table 1. PRE- AND POST PROJECT NON-CARCINOGENIC TAP EMISSIONS SUMMARY
POTENTIAL TO EMIT

Non-Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non- Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screenin g Level? (Y/N)
2-Butoxyethanol	9.94E-01	1.49E+00	-9.99E+00	8.00E+00	No
Tert Butyl Acetate	6.19E+00	9.33E+00	-7.58E+01	6.33E+01	No
Carbon Black	1.65E-01	7.85E-03	-8.07E-02	2.30E-01	No
Cumene	1.59E-01	1.31E-01	-1.64E+01	1.63E+01	No
Xylene	1.65E-01	1.31E-01	-2.91E+01	2.90E+01	No
Toluene	1.59E-01	1.31E-01	-2.51E+01	2.50E+01	No
Iron Oxide	4.93E-01	1.79E-01	-1.98E-01	3.33E-01	No
Zinc Oxide	5.32E-01	7.23E-02	-2.80E-01	6.67E-01	No
2-Methylnaphthalene	5.04E-09	5.04E-09	-9.10E-05	9.10E-05	No
Barium	9.23E-07	9.23E-07	-3.30E-02	3.30E-02	No
Cobalt	6.55E-07	9.12E-08	5.64E-07	3.30E-03	No
Copper	1.83E-04	2.01E-05	1.63E-04	1.30E-02	No
Manganese	8.95E-04	5.42E-05	8.41E-04	6.70E-02	No
Molybdenum	1.83E-04	2.01E-05	1.63E-04	3.33E-01	No
Selenium	6.38E-06	7.40E-07	5.64E-06	1.30E-02	No
Vanadium	6.86E-06	1.22E-06	5.64E-06	3.00E-03	No
Zinc	1.83E-04	2.53E-05	1.58E-04	6.67E-01	No
Aluminum	3.53E-04	3.84E-05	3.15E-04	1.33E-01	No
Antimony	6.37E-06	7.35E-07	5.63E-06	6.67E-01	No
Quartz (silica,	1.71E-03	2.70E-02	-2.52E-02	6.70E-03	No

Phosphorus	6.37E-06	7.35E-07	5.63E-06	7.00E-03	No
Silicon	7.11E-04	7.74E-05	6.34E-04	6.67E-01	No
Tin	6.37E-06	7.35E-07	5.63E-06	1.33E-01	No
Tungsten	6.37E-06	7.35E-07	5.63E-06	3.33E-01	No
Iron	1.85E-02	2.02E-03	1.65E-02	6.70E-02	No

Table 2. PRE- AND POST PROJECT CARCINOGENIC TAP EMISSIONS SUMMARY POTENTIAL TO EMIT

Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Pyrene2	3.93E-09	3.93E-09	1.72E-12	9.10E-05	No
3-Methylcholanthrene2	1.41E-09	1.41E-09	-4.18E-12	9.10E-05	No
7,12-Dimethylbenz(a)anthracene2	1.26E-08	1.26E-08	2.95E-11	9.10E-05	No
Acenaphthene2	1.41E-09	1.41E-09	-4.18E-12	9.10E-05	No
Acenaphthylene2	1.41E-09	1.41E-09	-4.18E-12	9.10E-05	No
Anthracene2	1.89E-09	1.89E-09	4.42E-12	9.10E-05	No
Benzene1	1.65E-06	1.65E-06	1.21E-10	8.00E-04	No
Benzo(g,h,i)perylene2	9.43E-10	9.43E-10	2.12E-13	9.10E-05	No
Dichlorobenzene1	9.43E-07	9.43E-07	2.12E-10	9.10E-05	No
Fluoranthene2	2.36E-09	2.36E-09	3.03E-12	9.10E-05	No
Fluorene2	2.20E-09	2.20E-09	1.61E-13	9.10E-05	No
Formaldehyde	5.89E-05	5.89E-05	-2.43E-08	9.10E-05	No
Naphthalene	4.79E-07	4.79E-07	-2.51E-10	3.33E+00	No
Phenanthrene2	1.34E-08	1.34E-08	4.38E-11	9.10E-05	No
Arsenic	5.06E-07	1.97E-07	3.09E-07	1.50E-06	No
Beryllium	3.59E-07	4.97E-08	3.09E-07	2.80E-05	No
Cadmium	9.03E-07	8.69E-07	3.43E-08	3.70E-06	No
Chromium	9.60E-06	2.08E-06	7.52E-06	3.30E-02	No
Nickel	5.53E-06	2.1E-06	3.43E-06	2.70E-05	No
POM1	8.96E-09	8.96E-09	3.51E-12	9.10E-05	No

1. Polycyclic Organic Matter (POM) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

Pre-project average emissions are the existing allowable emission rates.

Post-project average emissions are the new proposed emission rates.

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM/draft

DATE: June 12, 2019

TO: Christina Boulay, Permit Writer, Air Program

FROM: Thomas Swain, Air Quality Analyst, Air Program

PROJECT: P-2009.0006 Project 62219 – Fab Tec, Inc. a fabrication facility located in Moscow, Idaho

JECT: Demonstration of Compliance with IDAPA 58.01.01.203.02 (NAAQS) and 203.03 (TAPs) as it relates to air quality impact analyses – Criteria Pollutant Modeling Exemption and TAPs Modeling Exemption

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Acronyms, Units, and Chemical Nomenclature

AAC	Acceptable Ambient Concentration of a non-carcinogenic TAP
AACC	Acceptable Ambient Concentration of a Carcinogenic TAP
Appendix W	40 CFR 51, Appendix W – Guideline on Air Quality Models
BPIP	Building Profile Input Program
BRC	Below Regulatory Concern
CFR	Code of Federal Regulations
CMAQ	Community Multi-Scale Air Quality modeling system
CO	Carbon Monoxide
DEQ	Idaho Department of Environmental Quality
EL	Emissions Screening Level of a TAP
EPA	United States Environmental Protection Agency
FABTEC	Fab Tec, Inc.
Idaho Air Rules	Rules for the Control of Air Pollution in Idaho, located in the Idaho Administrative Procedures Act 58.01.01
lb/hr	Pounds per hour
lb/yr	Pounds per year
NAAQS	National Ambient Air Quality Standards
NO ₂	Nitrogen Dioxide
NO _x	Oxides of Nitrogen
O ₃	Ozone
Pb	Lead
PM ₁₀	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 10 micrometers
PM _{2.5}	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 2.5 micrometers
ppb	parts per billion
PTC	Permit to Construct
PTE	Potential to Emit
SIL	Significant Impact Level
SO ₂	Sulfur Dioxide
STAN	Stantec Consulting, Ltd.
TAP	Toxic Air Pollutant
VOCs	Volatile Organic Compounds
µg/m ³	Micrograms per cubic meter of air

1.0 Summary

Fab Tec, Inc., (FABTEC) submitted a Permit to Construct (PTC) application for\A PTC MODIFICATION – FABTEC submitted a permit April 15, 2019. They are proposing to modify a permit issued in April of 2019. The purpose of the modification is to incorporate control efficiencies utilized by new air filtration systems. FABTEC is located in Moscow, Idaho. Idaho Administrative Procedures Act 58.01.01.203.02 and 203.03 (Idaho Air Rules Section 203.02 and 203.03) requires that no permit be issued unless it is demonstrated that applicable emissions do not result in violation of a National Ambient Air Quality Standard (NAAQS) or Toxic Air Pollutant (TAP) increment. Emissions of criteria pollutants were below levels defined as Below Regulatory Concern (BRC), so NAAQS compliance demonstrations were not required for permit issuance. TAP impact analyses were not required for permit issuance because all applicable TAPS emissions were below screening emission level (EL) thresholds. This memorandum provides a summary of the applicability assessment for analyses used to demonstrate compliance with applicable NAAQS and TAP increments, as required by Idaho Air Rules Section 203.02 and 203.03.

Stantec Consulting, Ltd. (STAN), on behalf of FABTEC, prepared the PTC application and applicability evaluation for this project to demonstrate compliance with applicable National Ambient Air Quality Standards (NAAQS) and Toxic Air Pollutant (TAP) increments. DEQ review of submitted data and DEQ analyses summarized by this memorandum addressed only the rules, policies, methods, and data pertaining to the air impact analyses used to demonstrate that estimated emissions associated with operation of the facility will not cause or significantly contribute to a violation of any applicable air quality standard. This review did not address/evaluate compliance with other rules or analyses not pertaining to the air impact analyses. Evaluation of emission estimates was the responsibility of the DEQ permit writer and is addressed in the main body of the DEQ Statement of Basis, and emission calculation methods were not evaluated in this modeling review memorandum.

The submitted information and analyses: 1) showed either a) that estimated potential/allowable emissions are at a level defined as below regulatory concern (BRC) and do not require a NAAQS compliance demonstration, or b) that criteria pollutant emissions increases resulting from the proposed project are below site-specific modeling applicability thresholds, developed to assure that emissions below such levels will not result in ambient air impacts exceeding Significant Impact Levels (SILs); 2) showed that TAP emissions increases associated with the project are either below applicable emission screening levels (ELs) or are exempt from the requirement to assess impacts.

Table 1 presents key assumptions should be considered in the permit writer's evaluation of the proposed project.

The submitted information and analyses demonstrated to the satisfaction of the Department that operation of the proposed project will not cause or significantly contribute to a violation of any ambient air quality standard, provided the key conditions in Table 1 are representative of facility design capacity or operations as limited by a federally enforceable permit condition. The DEQ permit writer should use Table 1 and other information presented in this memorandum to generate appropriate permit provisions/restrictions to assure emissions do not exceed applicable regulatory thresholds requiring further analyses.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES	
Criteria/Assumption/Result	Explanation/Consideration
General Criteria Pollutant Emissions Rates Criteria air pollutant emissions rates used in the air permitting analyses, as listed in the permit application, must represent maximum potential emissions as given by design capacity, inherently limited by the nature of the process or configuration of the facility, or as limited by the issued permit for the specific pollutant and averaging period.	Air impact modeling analyses may be required for emissions rates greater than those listed in this memorandum.
TAP Emissions Sources TAP emissions sources, must be accurately represented by the analyses submitted with the PTC application, with the project's emission increases remaining below non-carcinogenic and carcinogenic ELs, or the project's TAP emissions must be addressed by a federal emission standard.	TAPs emission increases (which are not HAPs addressed by a federal emission standard) that exceed ELs are subject to a compliance demonstration based on modeling. Modeling of applicable TAPs is not required, provided controlled emissions for the project are below Section 585 and 586 ELs.

Summary of Submittals and Actions

PTC modification submitted April 15, 2019
Application deemed complete May 01, 2019

2.0 Background Information

Background information on the project was provided in the submitted application.

2.1 Project Description

The FABTEC project is a fabrication facility located near Moscow, Idaho. Pollutant-emitting processes conducted at the facility include plasma cutting, grinding, welding, abrasive blasting, painting, and fuel combustion in heaters. The PTC addresses all air pollutant emitting activities associated with the facility.

2.2 Air Impact Analyses Required for All Permits to Construct

Idaho Air Rules Sections 203.02 and 203.03:

No permit to construct shall be granted for a new or modified stationary source unless the applicant shows to the satisfaction of the Department all of the following:

02. NAAQS. *The stationary source or modification would not cause or significantly contribute to a violation of any ambient air quality standard.*

03. Toxic Air Pollutants. *Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.*

Atmospheric dispersion modeling, using computerized simulations, is used to demonstrate compliance with both NAAQS and TAPs. Idaho Air Rules Section 202.02 states:

02. Estimates of Ambient Concentrations. All estimates of ambient concentrations shall be based on the applicable air quality models, data bases, and other requirements specified in 40 CFR 51 Appendix W (Guideline on Air Quality Models).

2.3 Significant Impact Level and Cumulative NAAQS Impact Analyses

If specific criteria pollutant emission increases associated with the proposed permitting project cannot qualify for a BRC exemption as per Idaho Air Rules Section 221, then the permit cannot be issued unless the application demonstrates that applicable emission increases will not cause or significantly contribute to a violation of NAAQS, as required by Idaho Air Rules Section 203.02.

The first phase of a NAAQS compliance demonstration is to evaluate whether the proposed facility/project could have a significant impact to ambient air. Section 3.1.1 of this memorandum describes the applicability evaluation of Idaho Air Rules Section 203.02. The Significant Impact Level (SIL) analysis for a new facility or proposed modification to a facility involves modeling estimated criteria air pollutant emissions from the facility or modification to determine the potential impacts to ambient air. Air impact analyses are required by Idaho Air Rules to be conducted in accordance with methods outlined in Appendix W. Appendix W requires that facilities be modeled using emissions and operations representative of design capacity or as limited by a federally enforceable permit condition.

A facility or modification is considered to have a significant impact on air quality if maximum modeled impacts to ambient air exceed the established SIL listed in Idaho Air Rules Section 006 (referred to as a “significant contribution” in Idaho Air Rules) or as incorporated by reference as per Idaho Air Rules Section 107.03.b. Table 2 lists the applicable SILs.

If modeled maximum pollutant impacts to ambient air from the emission sources associated with a new facility or modification exceed the SILs, then a cumulative NAAQS impact analysis is necessary to demonstrate compliance with NAAQS and Idaho Air Rules Section 203.02.

A cumulative NAAQS impact analysis for attainment area pollutants involves assessing ambient impacts (typically the design values consistent with the form of the standard) from potential/allowable emissions resulting from the project and emissions from any nearby co-contributing sources (including existing emissions from the facility that are unrelated to the project, and then adding a DEQ-approved background concentration value to the modeled result that is appropriate for the criteria pollutant/averaging-period at the facility location and the area of significant impact. The resulting pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 2. Table 2 also lists SILs and specifies the modeled design value that must be used for comparison to the NAAQS. NAAQS compliance is evaluated on a receptor-by-receptor basis for the modeling domain.

If the cumulative NAAQS impact analysis indicates a violation of the standard, the permit may not be issued if the proposed project has a significant contribution (exceeding the SIL) to the modeled violation. If project-specific impacts are below the SIL, then the project does not have a significant contribution to the specific violations.

Table 2. APPLICABLE REGULATORY LIMITS

Pollutant	Averaging Period	Significant Impact Levels ^a (µg/m ³) ^b	Regulatory Limit ^c (µg/m ³)	Modeled Design Value Used ^d
PM ₁₀ ^e	24-hour	5.0	150 ^f	Maximum 6 th highest ^g
PM _{2.5} ^h	24-hour	1.2	35 ⁱ	Mean of maximum 8 th highest ^j
	Annual	0.2	12 ^k	Mean of maximum 1 st highest ^l
Carbon monoxide (CO)	1-hour	2,000	40,000 ^m	Maximum 2 nd highest ⁿ
	8-hour	500	10,000 ^m	Maximum 2 nd highest ⁿ
Sulfur Dioxide (SO ₂)	1-hour	3 ppb ^o (7.8 µg/m ³)	75 ppb ^p (196 µg/m ³)	Mean of maximum 4 th highest ^q
	3-hour	25	1,300 ^m	Maximum 2 nd highest ⁿ
	24-hour	5	365 ^m	Maximum 2 nd highest ⁿ
	Annual	1.0	80 ^r	Maximum 1 st highest ⁿ
Nitrogen Dioxide (NO ₂)	1-hour	4 ppb (7.5 µg/m ³)	100 ppb ^s (188 µg/m ³)	Mean of maximum 8 th highest ^t
	Annual	1.0	100 ^r	Maximum 1 st highest ⁿ
Lead (Pb)	3-month ^u	NA	0.15 ^r	Maximum 1 st highest ⁿ
	Quarterly	NA	1.5 ^r	Maximum 1 st highest ⁿ
Ozone (O ₃)	8-hour	40 TPY VOC ^v	70 ppb ^w	Not typically modeled

a. Idaho Air Rules Section 006 (definition for significant contribution) or as incorporated by reference as per Idaho Air Rules Section 107.03.b.

b. Micrograms per cubic meter.

c. Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.

d. The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.

e. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

f. Not to be exceeded more than once per year on average over 3 years.

g. Concentration at any modeled receptor when using five years of meteorological data.

h. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

i. 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.

j. 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.

k. 3-year mean of annual concentration.

l. 5-year mean of annual averages at the modeled receptor.

m. Not to be exceeded more than once per year.

n. Concentration at any modeled receptor.

o. Interim SIL established by EPA policy memorandum.

p. 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.

q. 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.

r. Not to be exceeded in any calendar year.

s. 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.

t. 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.

u. 3-month rolling average.

v. An annual emissions rate of 40 ton/year of VOCs is considered significant for O₃.

w. Annual 4th highest daily maximum 8-hour concentration averaged over three years.

Compliance with Idaho Air Rules Section 203.02 is generally demonstrated if: a) applicable specific criteria pollutant emission increases are at a level defined as BRC, using the criteria established by DEQ regulatory interpretation¹; or b) all modeled impacts of the SIL analysis are below the applicable SIL or other level determined to be inconsequential to NAAQS compliance; or c) modeled design values of the cumulative NAAQS impact analysis (modeling all emissions from the facility and co-contributing sources, and adding a background concentration) are less than applicable NAAQS at receptors where impacts from the proposed facility/modification exceeded the SIL or other identified level of consequence; or d) if the cumulative NAAQS analysis showed NAAQS violations, the impact of proposed facility/modification to any modeled violation was inconsequential (typically assumed to be less

than the established SIL) for that specific receptor and for the specific modeled time when the violation occurred.

2.4 Toxic Air Pollutant Analyses

Emissions of toxic substances are generally addressed by Idaho Air Rules Section 161:

Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.

Permitting requirements for toxic air pollutants (TAPs) from new or modified sources are specifically addressed by Idaho Air Rules Section 203.03 and require the applicant to demonstrate to the satisfaction of DEQ the following:

Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.

Per Section 210, if the total project-wide emission increase of any TAP associated with a new source or modification exceeds screening emission levels (ELs) of Idaho Air Rules Section 585 or 586, then the ambient impact of the emission increase must be estimated. If ambient impacts are less than applicable Acceptable Ambient Concentrations (AACs) for non-carcinogens of Idaho Air Rules Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACCs) of Idaho Air Rules Section 586, then compliance with TAP requirements has been demonstrated.

Idaho Air Rules Section 210.20 states that if TAP emissions from a specific source are regulated by the Department or EPA under 40 CFR 60, 61, or 63, then a TAP impact analysis under Section 210 is not required for that TAP. The DEQ permit writer evaluates the applicability of specific TAPs to the Section 210.20 exclusion.

3.0 Analytical Methods and Data

This section describes the methods and data used in analyses to demonstrate compliance with applicable air quality impact requirements. The DEQ Statement of Basis provides a discussion of the methods and data used to estimate criteria and TAP emission rates.

3.1 Emission Source Data

Emissions increases of criteria pollutants and TAPs resulting from the proposed project were estimated by STANTEC for the applicable averaging periods. The calculation of potential emissions is the responsibility of the DEQ permit writer, and the representativeness and accuracy of emission estimates is not addressed in this modeling memorandum. DEQ air impact analysts are responsible for assuring that potential emission rates provided in the emission inventory are properly used in the modeling applicability assessment. The rates listed must represent the maximum allowable rate as averaged over the specified period.

Emission rates used in the impact modeling applicability analyses, as listed in this memorandum, should be reviewed by the DEQ permit writer and compared with those in the final emission inventory. All criteria air pollutant and TAP emission rates must be equal to or greater than the facility's potential emissions calculated in the PTC emission inventory or proposed permit allowable emission rates.

3.1.1 Modeling Applicability and Modeled Criteria Pollutant Emissions Rates

If project-specific emission increases for criteria pollutants would qualify for a BRC permit exemption as per Idaho Air Rules Section 221 if it were not for potential emissions of one or more pollutants exceeding the BRC threshold of 10 percent of emissions defined by Idaho Air Rules as significant, then a NAAQS compliance demonstration may not be required for those pollutants with emissions below BRC levels. DEQ's regulatory interpretation policy of exemption provisions of Idaho Air Rules is that: "A DEQ NAAQS compliance assertion will not be made by the DEQ modeling group for specific criteria pollutants having a project emissions increase below BRC levels, provided the proposed project would have qualified for a Category I Exemption for BRC emissions quantities except for the emissions of another criteria pollutant.¹" The interpretation policy also states that the exemption criteria of uncontrolled potential to emit (PTE) not to exceed 100 ton/year (Idaho Air Rules Section 220.01.a.i) is not applicable when evaluating whether a NAAQS impact analyses is required. A permit will be issued limiting PTE below 100 ton/year, thereby negating the need to maintain calculated uncontrolled PTE under 100 ton/year. The BRC exemption cannot be used to exempt a project from a pollutant-specific NAAQS compliance demonstration in cases where a PTC is required for the action regardless of emissions quantities, such as the modification of an existing emissions or throughput limit.

A NAAQS compliance demonstration is generally required to be performed for pollutant increases that would not qualify for the BRC exemption from the requirement to demonstrate compliance with NAAQS. Site-specific air impact modeling analyses may not be necessary for some pollutants, even where such emissions do not qualify for the BRC exemption. DEQ has developed modeling applicability thresholds, below which a site-specific modeling analysis is not required. DEQ generic air impact modeling analyses that were used to develop the modeling thresholds provide a conservative SIL analysis for projects with emissions below identified threshold levels. Project-specific modeling applicability thresholds are provided in the *Idaho Air Modeling Guideline*². These thresholds were based on assuring an ambient impact of less than the established SIL for specific pollutants and averaging periods.

NAAQS compliance demonstrations were not required for this project. The project qualified for the BRC NAAQS compliance demonstration exemption because the post-project facility-wide potential emissions are below the BRC thresholds triggering a NAAQS compliance demonstration for permit issuance.

Table 3 provides results of the NAAQS compliance requirement applicability analysis.

Site-specific air impact modeling analyses may not be necessary for some pollutants, even where such emissions do not qualify for the BRC exemption. DEQ has developed modeling applicability thresholds, below which a site-specific modeling analysis is not required. DEQ generic air impact modeling analyses that were used to develop the modeling thresholds provide a conservative SIL analysis for projects with emissions below identified threshold levels. Project-specific modeling applicability thresholds are provided in the *Idaho Air Modeling Guideline*². These thresholds were based on assuring an ambient impact of less than the established SIL for specific pollutants and averaging periods.

Table 3. NAAQS COMPLIANCE DEMONSTRATION APPLICABILITY ANALYSIS RESULTS			
Pollutant	Annual Allowable Emissions^a (tons/year)	BRC Level (tons/year)^b	NAAQS Compliance Demonstration Required
PM _{2.5}	0.78	1.0	No
PM ₁₀	1.36	1.5	No
NO _x	3.1	4	No
CO	0.4	10	No
SO ₂	0.01	4	No
Pb	< 0.001	0.06	No

a. As stated in the application materials.

b. BRC exemptions are based solely on annual emissions rates.

Projects may be exempted from modeling requirements for criteria air pollutants based on Level I and Level II modeling thresholds contained in DEQ's *Modeling Guideline*². If project-specific total emissions rate increases of a pollutant are below Level I Modeling Applicability Thresholds, then project-specific air impact analyses are not necessary for permitting. The Level I modeling thresholds are generally viewed as de minimis values and are applied for most projects. Use of Level II Modeling Applicability Thresholds are less conservative and their use is conditional, requiring DEQ approval. DEQ approval of the Level II modeling thresholds is based on dispersion-affecting characteristics of the emissions sources such as stack height, stack gas exit velocity, stack gas temperature, distance from sources to ambient air, presence of elevated terrain, and potential exposure to sensitive public receptors. Level I and Level II modeling thresholds for each criteria pollutant may have both short-term and annual average thresholds, based on the averaging periods of the SILs and NAAQS. For example, the current PM₁₀ NAAQS is limited to a 24-hour averaging period, so only a short-term threshold based on a pound per hour value is relevant. The current NO₂ NAAQS are based on a 1-hour averaging period and an annual averaging period, so Level I and II modeling thresholds have been established for short-term and annual averaging periods, and applicability is evaluated independently for annual and short-term thresholds.

Ozone (O₃) differs from other criteria pollutants in that it is not typically emitted directly into the atmosphere. O₃ is formed in the atmosphere through reactions of VOCs, NO_x, and sunlight. Atmospheric dispersion models used in stationary source air permitting analyses cannot be used to estimate O₃ impacts resulting from VOC and NO_x emissions from an industrial facility. O₃ concentrations resulting from area-wide emissions are predicted by using more complex airshed models such as the Community Multi-Scale Air Quality (CMAQ) modeling system. Use of the CMAQ model is very resource intensive and DEQ asserts that performing a CMAQ analysis for a particular permit application is not typically a reasonable or necessary requirement for air quality permitting. Addressing secondary formation of O₃ within the context of permitting a new stationary source has been somewhat addressed in EPA regulation and policy. As stated in a letter from Gina McCarthy of EPA to Robert Ukeiley, acting on behalf of the Sierra Club (letter from Gina McCarthy, Assistant Administrator, United States Environmental Protection Agency, to Robert Ukeiley, January 4, 2012):

... footnote 1 to sections 51.166(I)(5)(I) of the EPA's regulations says the following: "No de minimis air quality level is provided for ozone. However, any net emission increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of air quality data."

The EPA believes it unlikely a source emitting below these levels would contribute to such a violation of the 8-hour ozone NAAQS, but consultation with an EPA Regional Office should

still be conducted in accordance with section 5.2.1.c. of Appendix W when reviewing an application for sources with emissions of these ozone precursors below 100 TPY.”

DEQ determined it was not appropriate or necessary to require a quantitative source specific O₃ impact analysis because allowable emissions estimates of VOCs and NO_x are below the 100 tons/year threshold.

Secondary Particulate Formation

The impact from secondary particulate formation resulting from emissions of NO_x, SO₂, and/or VOCs was assumed by DEQ to be negligible based on the magnitude of emissions and the short distance from emissions sources to locations where maximum PM₁₀ and PM_{2.5} impacts are anticipated.

3.1.2 Toxic Air Pollutant Emissions Rates

TAP emissions regulations under Idaho Air Rules Section 210 are only applicable to new or modified sources constructed after July 1, 1995. TAP emissions may be exempted from modeling requirements by either of two methods: 1) the project's 24-hour period emissions for non-carcinogenic TAPs and annual emissions averaged over 8,760-hours for carcinogenic TAPs are below screening emission rate levels (ELs) listed in Idaho Air Rules Sections 585 and 586; and, 2) certain TAPs are addressed by a federal New Source Performance Standard per 40 CFR 60 or a National Emission Standard for Hazardous Air Pollutants per 40 CFR 63.

The emissions inventory indicated that TAPs emissions for the project were below applicable ELs. Refer to the project's permit application materials to review the TAPs emissions rates and comparison to the ELs.

3.1.3 DEQ Review

DEQ determined based on review of the permit application, submitted emissions inventory, and consultation with the DEQ permit writer assigned to the project, that an ambient air impact analysis was not required to demonstrate compliance with any TAPs increments specified in Sections 585 and 586 of the Idaho Air Rules. DEQ also determined that ambient impact analyses were not required to demonstrate compliance with any criteria pollutant SILs and NAAQS.

4.0 Conclusions

The information submitted with the PTC application demonstrated to DEQ's satisfaction that applicable emissions resulting from the facility will not cause or significantly contribute to a violation of any applicable ambient air quality standard or TAP increment.

References

1. Memorandum titled "Policy on NAAQS compliance demonstration requirements", Tiffany Floyd, Administrator, July 11, 2014.
2. *State of Idaho Guideline for Performing Air Quality Impact Analyses*. Idaho Department of Environmental Quality. September 2013. State of Idaho DEQ Air Doc. ID AQ-011. Available at <http://www.deq.idaho.gov/media/1029/modeling-guideline.pdf>.

APPENDIX C – FACILITY DRAFT COMMENTS

The following comments were received from the facility on May 23, 2019:

Facility Comment: Table 1.1 Regulated Sources does not currently contain control device information for the natural gas-fired heaters on-site. All heaters are located inside Shops 1, 2, and 3. Also, heaters vent to the inside of each Shop meaning that particulate emissions from the heaters are controlled by the Industrial Maid T4500 in Shop 1 and Industrial Maid T6000 in Shops 2 and 3. This omission is not carried throughout the permit, however, since Table 7.1 Shop Heaters Description does contain information regarding the emission control units in each Shop. Fab Tec requests that control device information for heaters be added to Table 1.1.

DEQ Response: Facility request granted. Controls are listed in Table 1.1 for natural gas heaters #1-#26.

Facility Comment: Throughout the facility draft permit, the term “stack” is used to describe emission points. Fab Tec’s facility configuration is such that there are no emissions at the facility that have been vented to a stack of any kind. For this reason, Fab Tec requests that alternate language be used to describe the point-of-compliance, specifically with respect to visible emissions. The points of potential escape to the ambient atmosphere occur only from shop windows and doors.

The term “stack” occurs in the following sections of the facility draft: Section 2.3, 2.4, 3.4, 4.4, 6.3, 6.4, 7.3 and 7.4. Fab Tec suggests that a more appropriate term for “stack” at their facility is “point of emission to the atmosphere” or the equivalent thereof. Of primary concern to Fab Tec are potential confusion with regard to self-inspection of visible emissions and ultimately, of DEQ inspection of these emission points.

DEQ Response: Facility request granted. The work stack has been removed, “or any vent, of functionally equivalent opening associated with...”, has been used in its place.

Facility Comment: Apparent typographical errors in Section 3.7, 4.8 and 7.9 refer to “plasma cutting operations,” but should refer to “grinding operations,” “welding operations,” and “natural gas heaters,” respectively.

DEQ Response: Facility request granted, these section have been corrected.

Facility Comment: In *Section 5 Abrasive Blasting*, there is no mention of blasting emissions being classified as fugitive emissions. Fab Tec requests that language be added to this section of the permit indicating that all emissions from blasting operations at Fab Tec are considered fugitive in nature by DEQ. It should be noted that Fab Tec’s initial air permit contained such language but that this language was apparently dropped during development of this new, modified permit.

DEQ Response: Facility request granted, “fugitive” has been added to Table 5.1.

Facility Comment: In permit condition 5.4 Abrasive Blasting Media Type, quartz sand media is specified to the exclusion of all other potential blasting media. The only TAP in this quartz sand media is crystalline silica (CAS# 14808-60-8) which makes up 99.4% of the quartz sand media.

Fab Tec plans to transition to more expensive, lower TAP-content garnet sand media once their new Industrial Maid air filtration systems have been paid for in full. Since this transition may be possible prior to expiration of the modified permit number P-2019.0006, Fab Tec requests that garnet sand media be added to permit condition 5.4 as an approved alternative blasting media.

The alternative garnet sand media, as evidenced by the attached Safety Data Sheet, is free of all regulated TAPs with the exception of crystalline silica (CAS# 14808-60-8) which makes up only 5% of the media. Therefore, at identical daily and annual usage rates, emissions of crystalline silica from blasting operations would be drastically reduced using the garnet sand media compared to emissions of the same pollutant using quartz sand media.

DEQ Response: Facility Request granted, garnet sand has been added.

Facility Comment: An apparent typographical omission in Section 6.1 of the permit states that painting operations occur in Shops 2 and 3. Painting operations occur in all three Shops at Fab Tec. Fab Tec requests that “Shop 1” be added to Section 6.1.

DEQ Response: Facility request granted.

Facility Comment: Permit condition 2.5 includes annual usage limits for hand-held plasma torches at Fab Tec. Initially, Fab Tec requested that each hand-held torch be permitted for 20 minutes of operation per day (1 hr/day of combined usage), which is reflected by permit condition 2.5. Upon deeper examination of projected operational needs during the next five years, Fab Tec requests that this limit be increased to 40 minutes per day (2 hr/day of combined usage).

This requested increase in usage limit will increase emissions of the following pollutants: PM_{2.5/10}, NO_x, As, Be, Cd, Cr, Co, Cu, Mn, Mo, Ni, Se, Va, Zn, Al, Sb, P, Si, Sn, W, and Fe. To support this request, an amended emission inventory has been included with this letter showing that although emissions of the aforementioned pollutants will increase as a result of this request, criteria pollutants PM_{2.5/10} and NO_x remain at levels deemed "Below Regulatory Concern," and emissions of each TAP remain below the Emission Limits set forth by IDAPA 58.01.01.585/586.

DEQ Response: Facility request granted.

Facility Comment: Permit condition 4.5 includes annual usage limits for welding wire at Fab Tec. Initially, Fab Tec requested a usage limit of 25,380 pounds which was based on 125% of the quantity of wire used during 2017 (20,304 pounds). As with plasma torch operations, Fab Tec would like to increase this usage limit to 150% of their 2017 usage amount: 30,456 pounds.

This requested increase in usage limit will increase emissions of the following pollutants: PM_{2.5/10}, Cu, Mn, Mo, Zn, Al, Si and Fe. To support this request, an amended emission inventory has been included with this letter showing that although emissions of the aforementioned pollutants will increase as a result of this request, PM_{2.5/10} remain at levels deemed "Below Regulatory Concern," and emissions of each TAP remain below the Emission Limits set forth by IDAPA 58.01.01.585/586.

DEQ Response: Facility request granted.

Facility Comment: In support of the requested changes detailed herein, the following documentation has been included with this letter:

- Amended emission inventory with updated calculations which account for requested increases in welding rod usage and plasma torch usage;
- SDS for garnet sand abrasive blasting media;
- Updated HAPs inventory in Word format;
- Updated TAPs inventory in Word format.

DEQ Response: Noted.

APPENDIX D – PROCESSING FEE

PTC Processing Fee Calculation Worksheet

Instructions:

Fill in the following information and answer the following questions with a Y or N. Enter the emissions increases and decreases for each pollutant in the table.

Company: Fab Tec, Inc.
Address: 1605 Paradise Ridge Road
City: Moscow
State: Idaho
Zip Code: 83843
Facility Contact: Clint Colvin
Title: President
AIRS No.: 333922 and 333131

N

Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N

Y

Did this permit require engineering analysis? Y/N

N

Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO _x	0.0	0	0.0
SO ₂	0.0	0	0.0
CO	0.0	0	0.0
PM10		0.13	-0.1
VOC	13.9	0	13.9
Total:	0.0	0.13	13.8
Fee Due	\$ 5,000.00		

Comments: